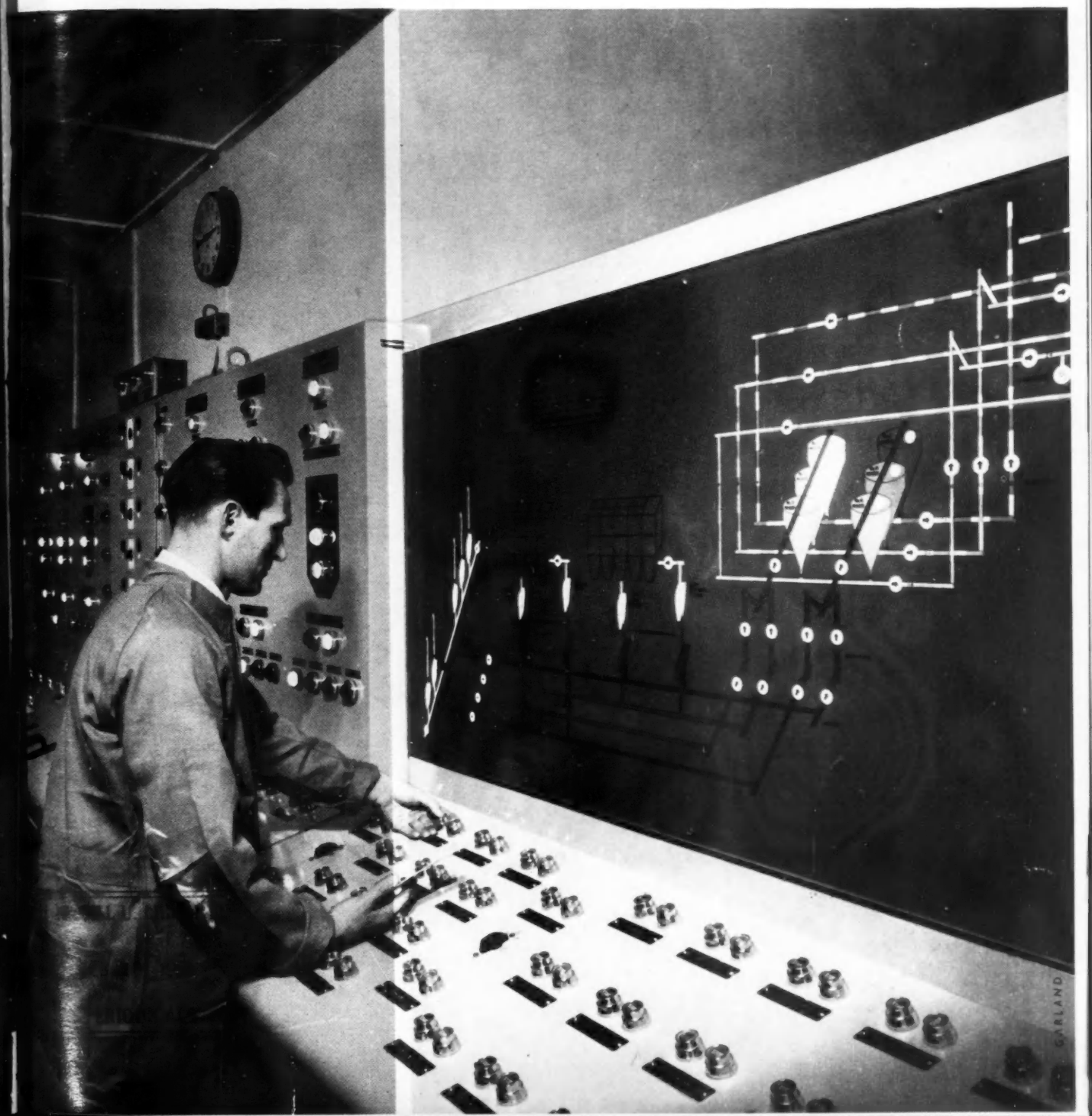
The Council of Industrial Design

February 1958 No 110 Price 3s

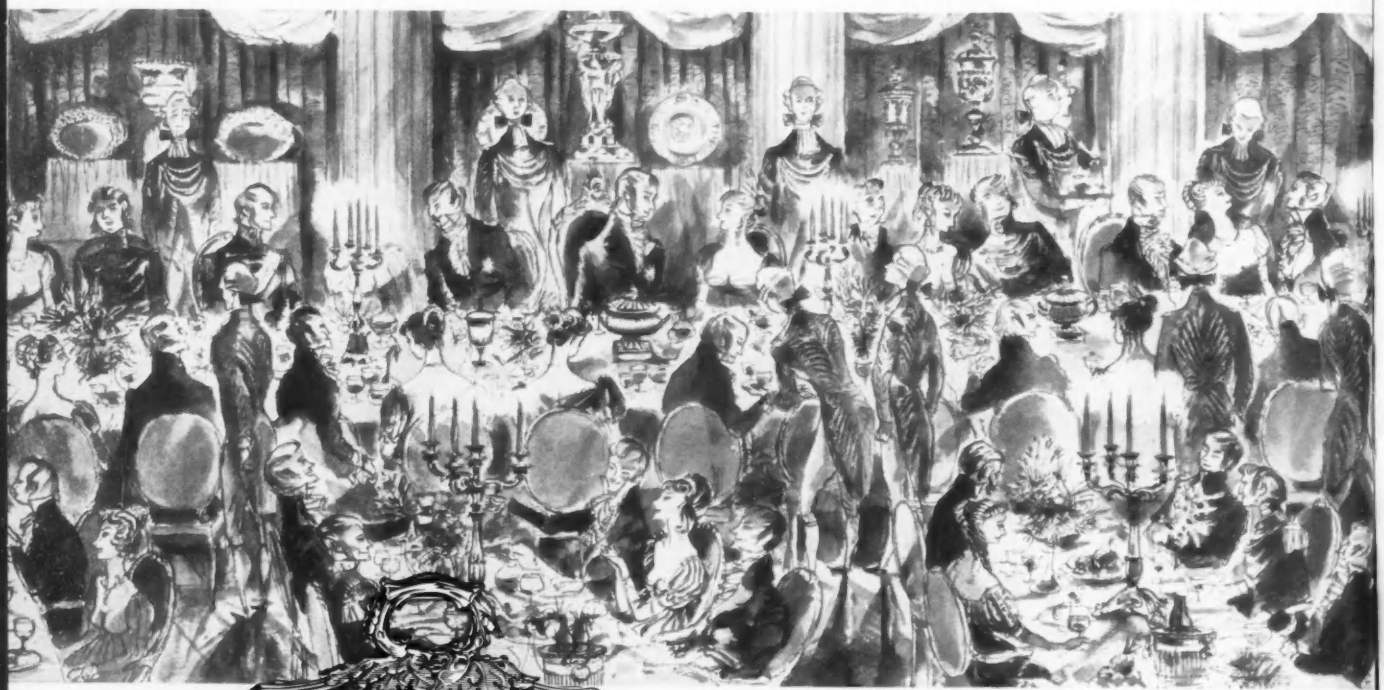
Design



PROFILE OF A CREATIVE MIND

No. 8 Goldsmith

Paul Storr (1771-1844) achieved great distinction during the reign of George III for his gold and silverware. He has been called "The Last of the Great Goldsmiths".



The Classical Style, revived by the Adam brothers, not only swept away the last traces of Rococo in architecture and furniture but affected other arts and crafts, including that of the goldsmith. In applying the Classical Style to the shaping and decoration of gold and silverware, Paul Storr exhibited a degree of craftsmanship previously equalled in England only by the Huguenot, Paul de Lamerie. His monumental pieces were not uniformly successful, because he often had to translate the designs of artists more accustomed to other media. Many pieces of this type today languish in strongrooms. On the other hand, he had an unerring talent for designing and making simple plate and, after the passage of two centuries, scores of his teapots and coffeepots are still in daily use.

In I.C.I., creative minds are constantly searching for new products and processes, and for improvements to existing ones.

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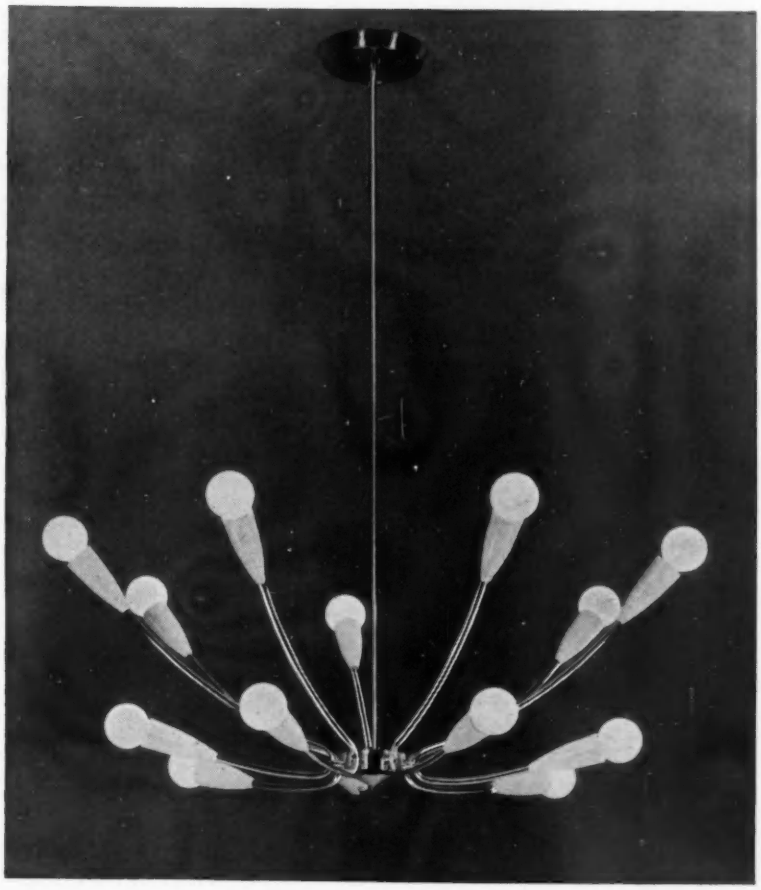
A G.E.C. FITTING

IS ALWAYS DISTINCTIVE



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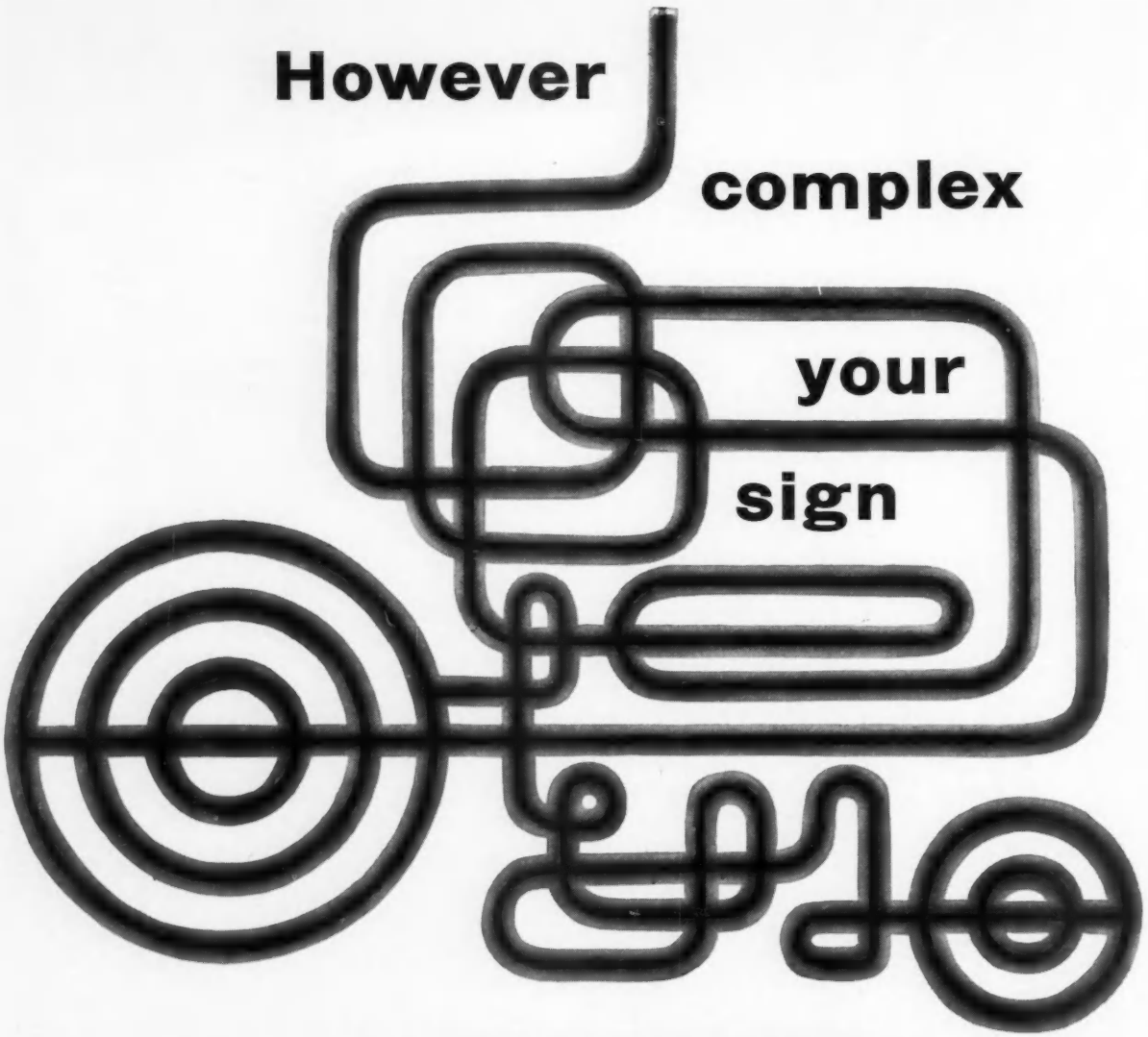

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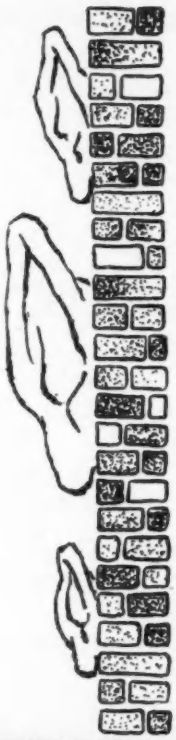

"Geon PVC for wall covering"

"Walls have ears"..."Up against a brick wall" ..."Feeling walled in"...are only a few of the ways in which man has expressed his concern about walls.

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This illustration was originally used on the front of the October issue of DESIGN.

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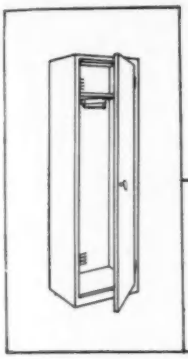
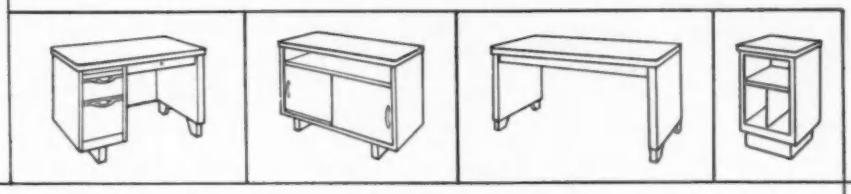
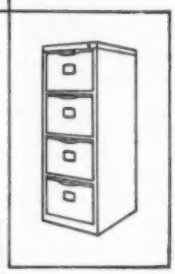


Not just a desk . . .





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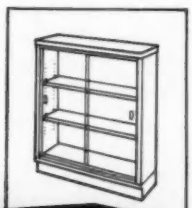

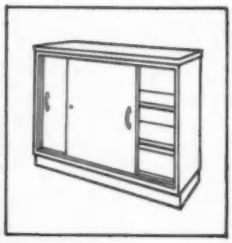

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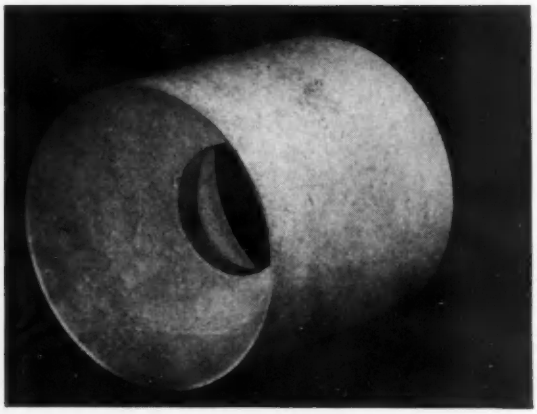

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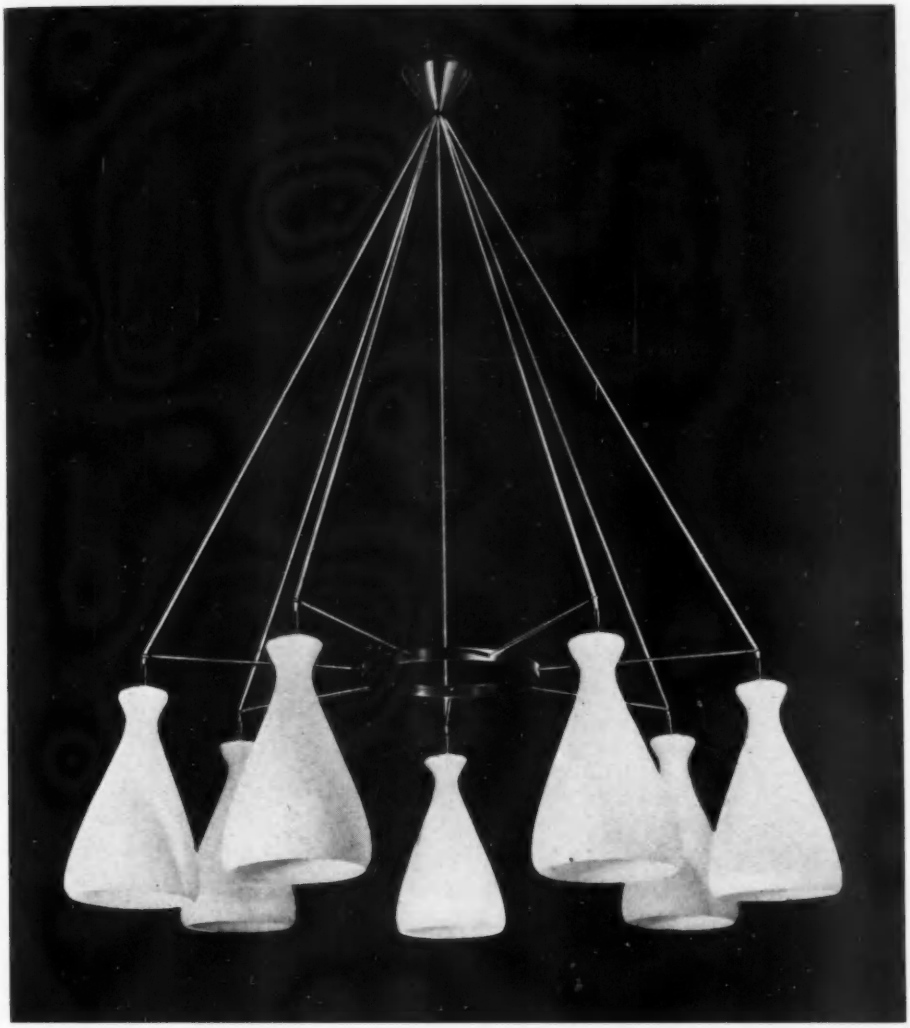

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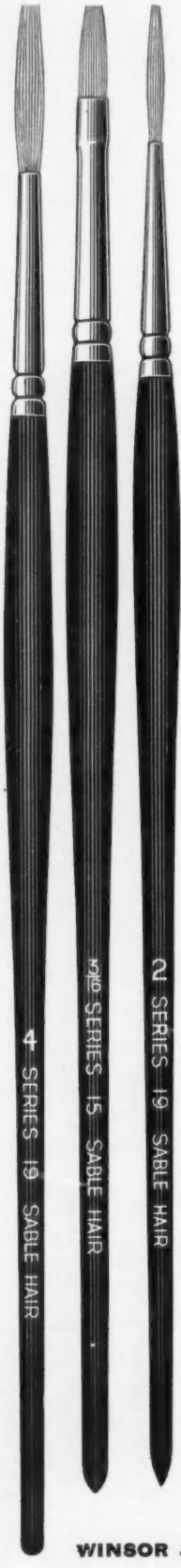

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2. Departure lounge London Airport, Architect Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.

3 Lunch room for Upjohn of England Ltd., Crawley. Architects Russell Diplock Associates. B.ARCH, A.R.I.B.A., A.M.T.P.I., Architects and Planning Consultants.

4. Part of a range of contract seating designed for durability in public buildings.

5. Conference room for the Engineering Division of The Bowater Paper Corporation Limited, Northfleet, Kent, in collaboration with the Architects Farmer & Dark F/F R.I.B.A.

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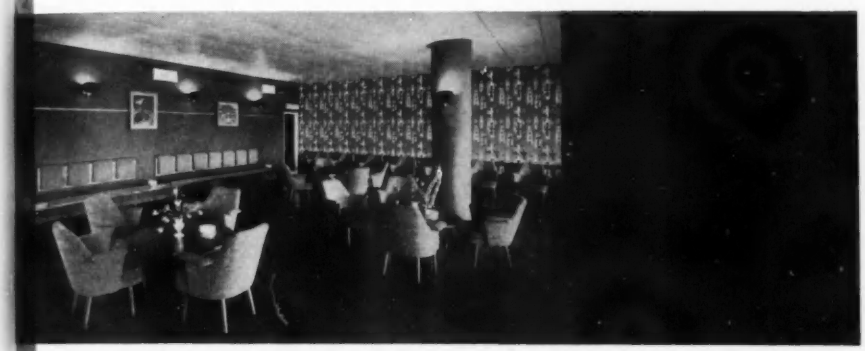

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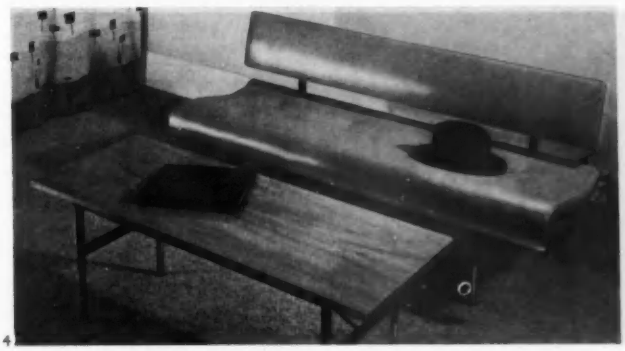

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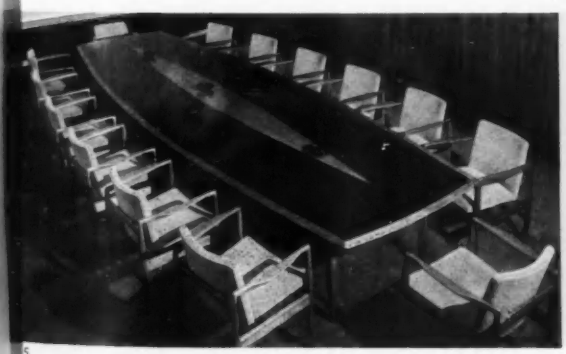

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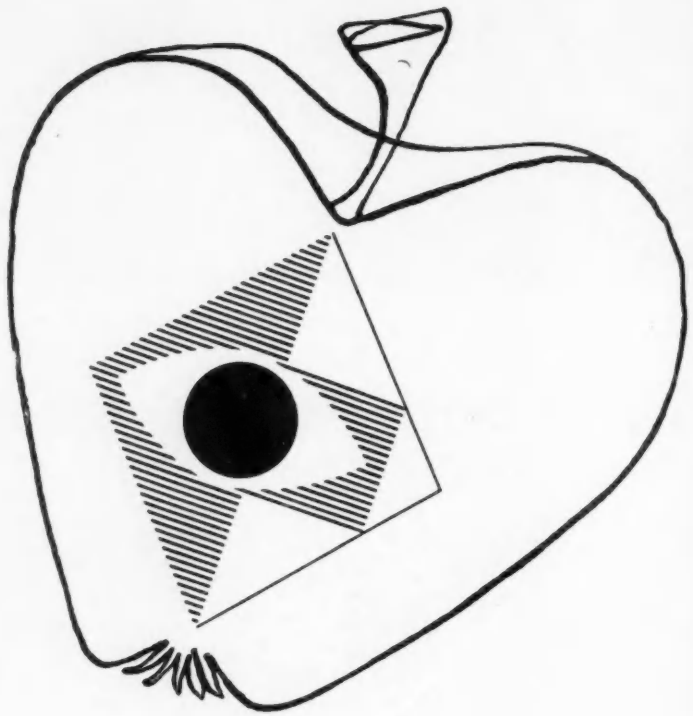

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TILES
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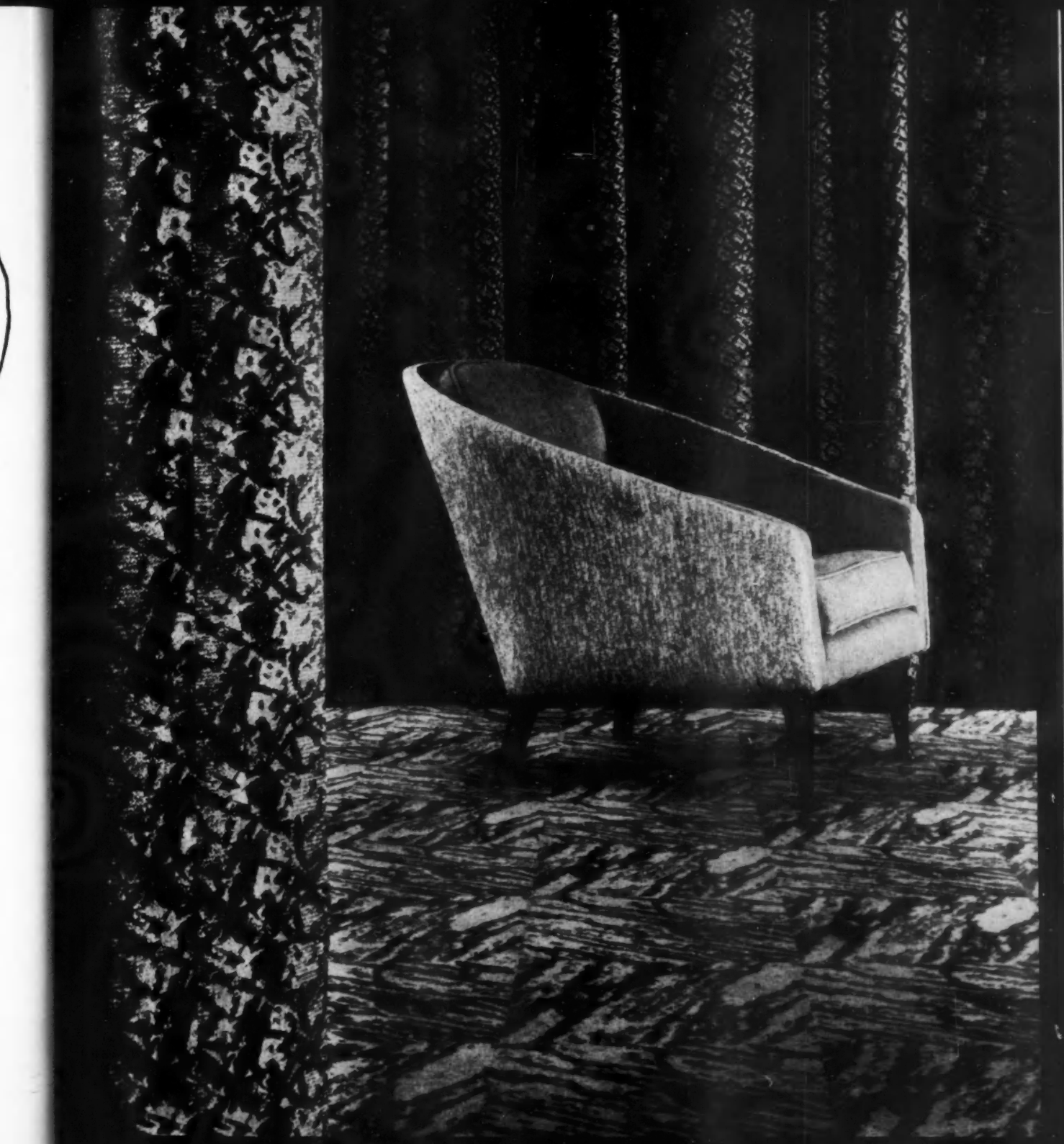

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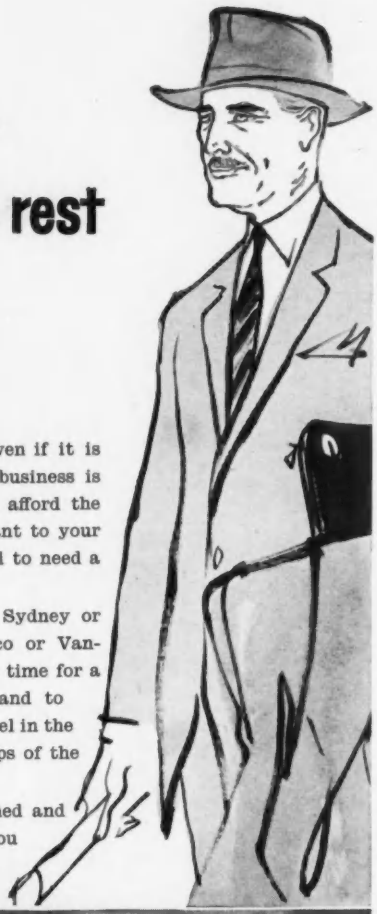

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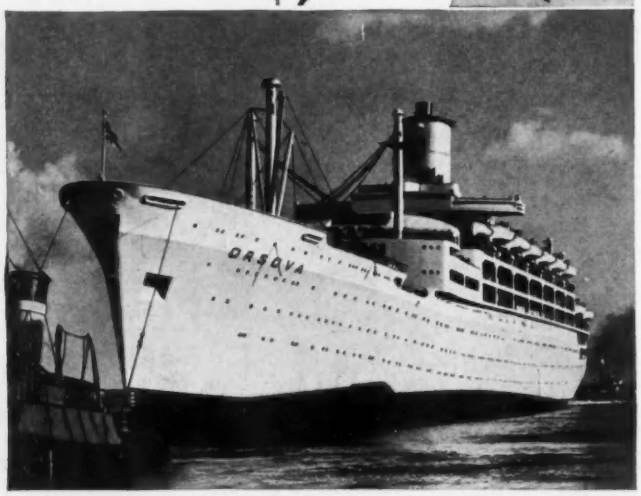

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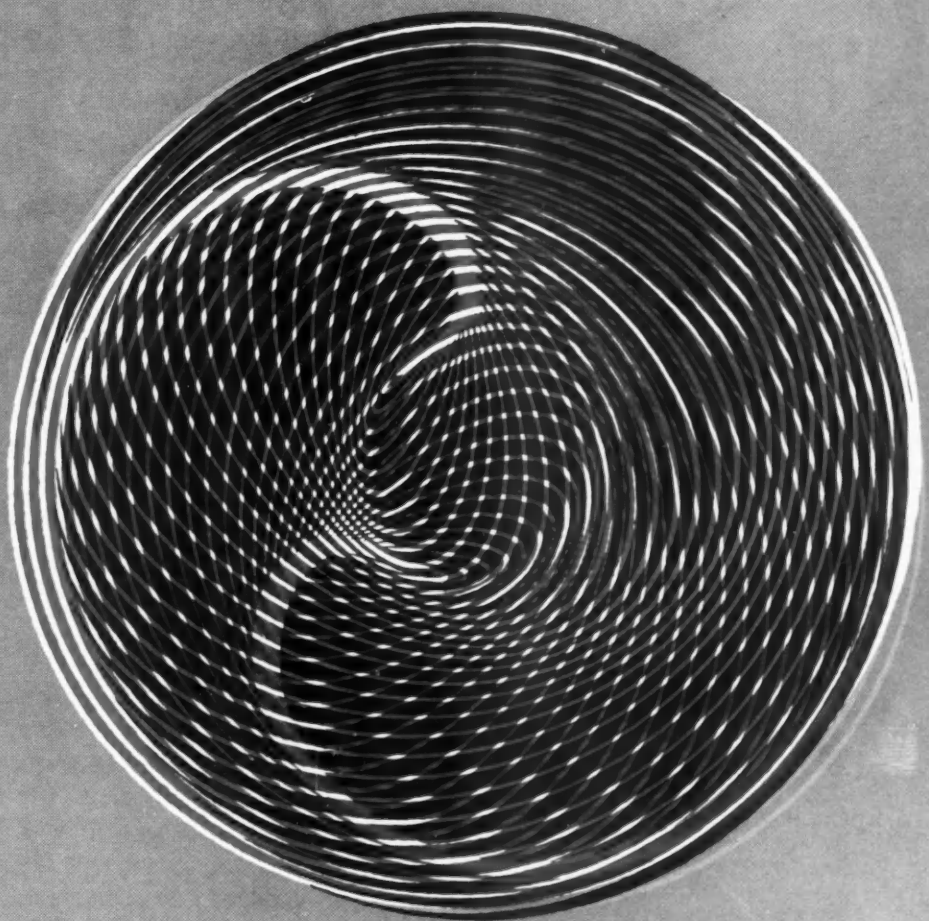

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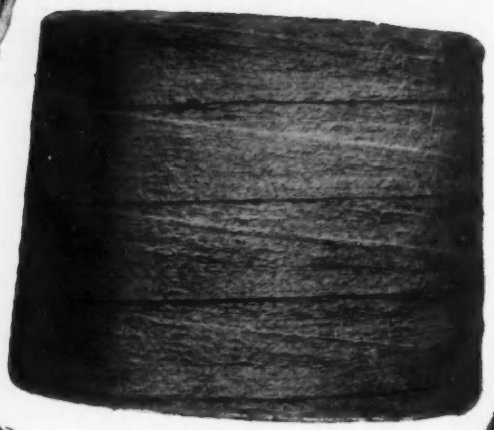
print *Design* magazine

DESIGN 119



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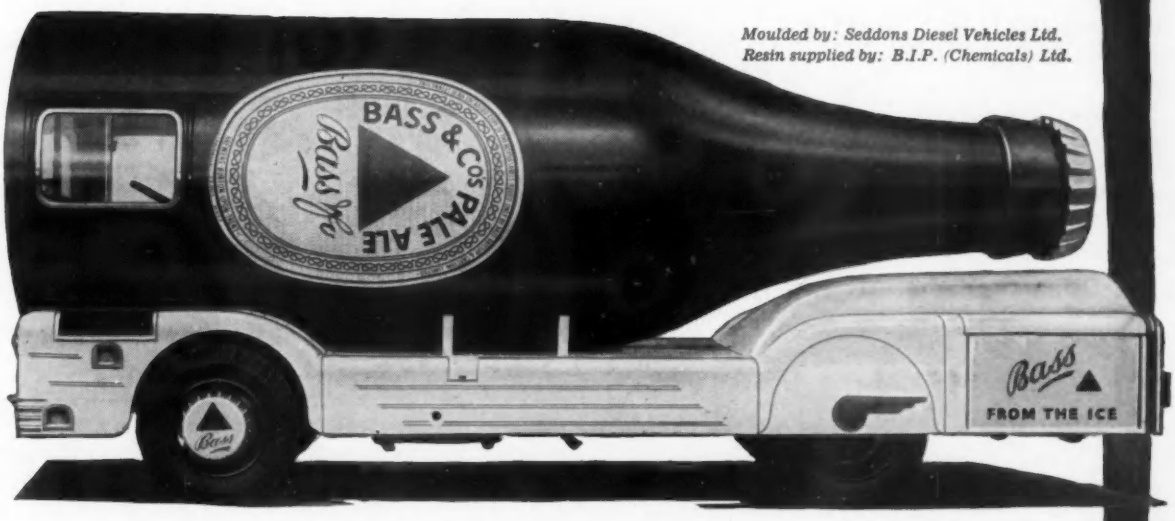

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DESIGN 110

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Every day in every way furnishing fabrics get better and better. And here is a new one that is quite superb—Storeys 'Storide'—to bring a timeless beauty to upholstery and decor in the modern home. Wears with unbelievable toughness, keeps its fresh look indefinitely, foils the accident-prone by being spongeable with a damp cloth. Internationally famous designer, Robin Day, A.R.C.A., F.S.I.A., designed and selected the patterns, over 50 of them, all with a delightful warmth of texture and colour.

British made by STOREYS OF LANCASTER, DEPARTMENT 22, WHITE CROSS, LANCASTER

Number 110

February 1958

Design

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Editorial Circulation Advertisements The Council of Industrial Design, The Design Centre, 28 Haymarket, London SW1 Tel: TRAfalgar 8000 AND The Council of Industrial Design Scottish Committee, 46 West George Street, Glasgow C2 Tel: Glasgow DOUglas 3914

Design may be obtained from booksellers at home and abroad. Yearly subscription rate: UK 40s post free

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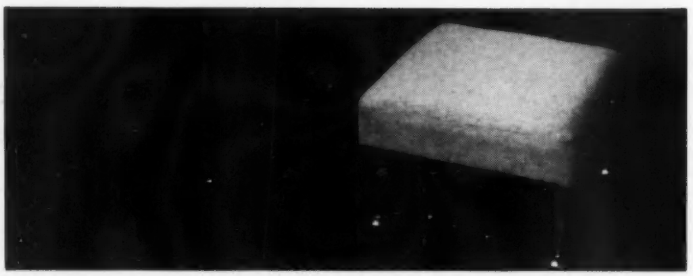

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The digestion of technology

THERE HAS ALWAYS BEEN a shortage of technologists. Some strange immutable law seems to determine that the more the population of technologists increases, the greater the demand becomes. By pushing back the frontiers of our knowledge and, for good or ill, applying the results to the way we live, the more technical battalions we need to control and develop the situation. Every advance creates its new province of specialisation and aggravates the difficulty of synthesising all branches of expertise so that a service or a product is provided in the best possible way.

The difficulty of combining advanced specialisation with a general awareness of developments in related fields – and the latter may stretch a long way from the familiar home acres – was put forward by Sir George Nelson in his recent presidential address to the Institution of Mechanical Engineers, as one of the great problems facing his own industry. Narrow theoretical knowledge alone will not provide solutions which can be successfully applied in practice.

These arguments suggest that now, more than ever before, attention should be paid by industry to the establishment of the industrial designer as the co-ordinating element in the technical teams concerned with manufacture. The experienced designer is trained to concert the knowledge and efforts of technologists, cost accountants and marketing experts, assisting in the definition of the product and in the choice of the most suitable materials and processes. He can also provide the increasingly vital link between what the user wants and the industrialist can produce. This can be as important in a large piece of electronic control equipment as in a domestic kettle.

The Willis Jackson report on training teachers for technical colleges shows that the recent annual increase of full-time technical teachers has been nearly 800, and that this will have to be nearly doubled in the next five years to meet industry's needs. This suggests a recruitment of about 1,400 full-time teachers each year; a formidable task which will only be accomplished if industry is willing to take the long view and, as the report says, for some years "be prepared to lose more than it may appear to gain". Only a regular interchange of staff between education and industry can achieve the common aim of the two departments. The present tendency to regard each other as competitors is an expensive form of suicide which has been condemned both by the Willis Jackson committee and by Lord Hives in the first report of the National Council for Technology Awards.

If this programme is successful, as indeed it must be, the basic problem of making the technologists' work effective through skilful co-ordination and direction becomes even more acute. It is therefore surely high time that industry examined more seriously its need for industrial designers of the highest order in relation to this technological expansion. And if, as has been recommended, there is to be a residential staff college for technology, so that senior members of industrial firms, colleges, government departments and universities can come together for an interchange on educational and industrial needs, then let industrial design be considered as a proper subject for its deliberations.

J.N.W.

Pointers

CoID chairman honoured

The honour of Knighthood to be bestowed by Her Majesty The Queen on the chairman of the Council of Industrial Design is a welcome acknowledgement of devoted public service.

When in 1953 the President of the Board of Trade invited Walter Worboys to become chairman of the CoID he had already served as a council member for six years. This period had covered the preparation and opening of the Festival of Britain in 1951, which had been the major concern of the CoID for three gruelling years. It was obvious that the Council's success in its work on the Festival could on no account be regarded as the end of the road but merely as a milestone.

It seemed likely therefore that the new chairman would step into a post which could not fail to be both arduous and controversial, but yet offered great scope to one who cared deeply for the work the CoID had set out to do, one who was a skilful diplomat, not easily deterred by opposition. In Mr Worboys these qualities were combined. But for his staunch advocacy in the right quarters, such an adventure as The Design Centre would have remained a pipe dream. It was indeed most fitting that the Royal Society of Arts should have awarded to him in 1956 its Bicentenary Medal, which is given annually to the person who in a manner other than as an industrial designer has exerted an exceptional influence in promoting art and design in British industry.

Mr Worboys is commercial director, Imperial Chemical Industries Ltd, and President, Association of British Chemical Manufacturers. He is also a director of the Westminster Bank. He was born in Australia and took the degree of Doctor of Philosophy at Oxford as a Rhodes Scholar from the University of Western Australia. He is a member of the committee which advises the President of the Board of Trade on overseas trade fairs and exhibitions, and of the design panel of the British Transport Commission. He is interested in painting and architecture; he was elected Hon ARIBA in 1957, and his son is an architect.

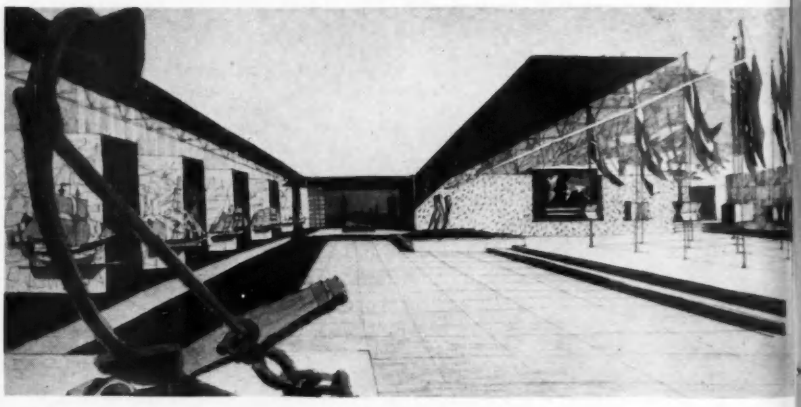
The honour will not only give great pleasure to all who know Mr Worboys, but will be an encouragement to those who care for the improvement of design standards, especially to those who realise what an uphill task this is. G.R.

Brussels International Exhibition

From the outset the planning of the British Government Pavilion at the 'Brussels International Exhibition' was conceived by the architects, together with James Gardner, the co-ordinating display designer, as a total display unit, and not as a building in which the displays would take second place. The problem of presenting a true picture of British achievements at an international exhibition is complicated by the diversity of those achievements. To communicate this diversity the designers have divided the pavilion into a number of sections, each devoted to a different facet of British life and work.

In the first hall there is a display of traditional Britain which features all trappings associated with state occasions. The second hall contains displays of British contributions to science and technology, with the aim of making these subjects entertaining to the average visitor. The highlights of this section include a diorama of the experimental nuclear reactor at Dounreay; a radioastronomy display; a section on British discoveries in the field of nucleic acids; and a display designed by Beverley Pick, of Nobel prize-winners from Britain.

The following section, illustrated here, is devoted to the British people, Parliament and the Commonwealth,



and includes a Court of Commonwealth with the flags of member countries.

The last section is a series of garden courtyards in the open air including a 'Courtyard of Invention', designed by Gordon Bowyer, showing over 300 'things that started in Britain' and displays designed by members of the Royal College of Art, co-ordinated by Sir Hugh Casson.

For further news on Brussels see page 61.

Free Trade: survival of the fittest?

During the next 15 years the Common Market will be fully established in Europe, and negotiations are now under way for Britain to form part of an associated Free Trade Area. Although British industry will have some years' grace before the full impact of these changes is felt, manufacturers must plan now to meet the challenge of increased competition, both at home and abroad. As Paul Reilly, deputy director, CoID, said at a recent meeting of the Incorporated Sales Managers' Association: "We have an old tradition – there is none finer – but unless we can school ourselves to create something new with it, it will avail us nothing. We shall find ourselves edged out of and squeezed out of market after market as the new world takes over from the old."

DESIGN *recently wrote to a number of firms in the British consumer goods industries, in order to assess the opinion of managements. Directors, designers and salesmen were asked to give their views on the possible effects the Common Market and Free Trade Area would have on British industry, and forecast the impact that freer trade would have on their own firms' policy and production. This feature is based on excerpts from their replies.*

MANY OF THE MANUFACTURERS approached, whether they welcomed the proposals or not, felt it essential that Britain should form part of a European Free Trade Area once the Common Market was established. The managing director of a firm making OFFICE LIGHTING EQUIPMENT, which has recently formed a subsidiary company in Germany, wrote: "I regard it as essential that the UK should form part of the European Common Market, and whether this is called a Free Trade Area or some other name is immaterial. One of the principal reasons for the foundation of our subsidiary company in Germany, is to have our own independent organisation inside the Common Market, so that if the UK fails to organise a Free Trade Area, at least we shall have a close connection with the European Common Market."

A manufacturer producing PLASTICS SHEETING wrote: "We feel very strongly, as far as our trade is concerned, that it is absolutely essential for Britain to participate in a Free Trade Area. Failure to do so, in our opinion, would mean the loss of very substantial European markets, whilst participation would have an immensely beneficial effect on our trade."

A firm producing CALCULATING MACHINES, TYPEWRITERS, etc: "We certainly hope to see either the Common Market or the Free Trade Area come to fruition with British participation, as we feel nothing but good can come from closer European co-operation."

However, opinions varied from industry to industry, and widely divergent views were often expressed by different firms within the same industry. The most confident were those manufacturers already selling to European markets who felt that trade would increase once tariff restrictions were lifted.

A POTTERY manufacturer: "The establishment of a Free Trade Area should greatly increase the competitive power of British pottery within the area."

A LIGHTING FITTINGS manufacturer: "One of our ranges is already exported in quantity to Norway, Sweden, Denmark, Holland, etc, in spite of the average 25 per cent duty at present being levied, and we anticipate an extension of this market once the duty is removed."

A CAMERA manufacturer: "There is a general impression that German camera production is so much more efficient than British, and that the latter would be killed by free trade. In our opinion this is quite untrue. German superiority is confined to expensive precision cameras, and Britain is most successful in the mass production of reliable, efficient and inexpensive cameras. This firm makes them by the million and exports them throughout the world. Our production costs are

such that we do not fear competition, and would welcome the expanded market which a Free Trade Area would provide."

A firm making PRINTED FABRICS: "We know from experience that our fabric designs are on the whole very acceptable to European countries, and we expect to sell considerably more fabrics with the breakdown of trade barriers." The director of another firm producing printed fabrics was, however, more cautious: "From such statistics as exist, it would seem that complete freedom to trade with the countries of Western Europe without tariffs or other restrictions would, on the whole, benefit the printing side of the textile industry as it is at present constituted, but there is an increasing production of good prints on the Continent, and this advantage may easily be whittled away in the next few years before the plan gets to full fruition."

One manufacturer producing WOVEN FURNISHING FABRICS summed up the difficulties facing his section of the textile industry: "The furnishing fabric trade is finding very hard Continental competition now on the home market, and there is not much doubt that a Free Trade Area will mean a further intensification of this competition."

FURNITURE manufacturers gave widely divergent views. One wrote: "We feel – and strongly – that the introduction of the Common Market and Free Trade Area will have a disastrous effect on the British furniture industry." Others admitted that there would be many problems, but felt that these could be successfully tackled: "The introduction of the Common Market and Free Trade Area can have a most beneficial effect on the British furniture industry, but only if leading firms make a close study of all the conditions of the markets, and recognise the requirements, as well as the inherent difficulties." Another wrote: "We are not apprehensive about the future because the greater market which will be available will enable us to pursue a more narrowly defined policy, with a fair prospect that intensive production in a restricted range will help to reduce costs, and have an assured market."

The firms most apprehensive about the future were the small manufacturers whose sales are mostly confined to the home market, and who are now protected to some extent by import restrictions. One manufacturer of GLASSWARE wrote: "In this particular industry 50 per cent of our costs are in wages to our craftsmen; I can see the home market flooded with cheap European designs at half our prices. The British manufacturer would be losing the most important quality market in Europe, which is our own home market." A CUTLER: "We frankly feel that European countries will gain much more from this proposed merger than we will."

Make more of less

Manufacturers in these smaller industries outlined the kinds of problems they would have to solve if they were to survive free trade. A representative of a firm producing CUTLERY AND SILVERWARE felt that the Free Trade Area would accelerate the existing trend in favour of the larger against the smaller firms in the industry. He described some of the obstacles that would have to be overcome, instancing "the suspicion that exists, in Sheffield at any rate, of any form of co-operative enterprise among the small men, and the poor standards of management and lack of imagination which prevail in the trade as a whole, (there are, of course, some exceptions)". He felt that for the firm that has skill, enterprise and capital there were great opportunities and added: "I am quite certain that what we must do is to manufacture more and more of less and less. We must, in order to compete in this large market, ensure that we get the full benefits of large scale production. This will quite possibly force us to change our home marketing policy, and it will also provide us with a big problem of capital investment and of recruiting, training and developing the quality of management we will need."

Tackling the problems

The FURNITURE industry has its own specific problems; one manufacturer summed these up: "Many British furniture manufacturers will face a number of unfamiliar difficulties. The vastly greater distances involved in making deliveries (as well as the shipping arrangements, which can be very complicated) argue such increased distributive costs that unless ways can be found to reduce them, the furniture will be too highly priced for large scale selling." Other furniture manufacturers pointed out that their European counterparts benefit from easy access to supplies of raw materials. Some, however, felt that the industry's problems were not entirely economic. One manufacturer condemned "the fundamental conservatism of the British public which prohibits the ready acceptance of new design trends, and in turn prevents the majority of manufacturers finding an adequate home market for products which might sell on the Continent". Another maintained that "many of our most efficient producers are not led by designers, so that as a country our approach to design is conservative".

Not all the furniture manufacturers approached felt that these problems were insurmountable. Several reported that they were experimenting with ranges of furniture that could be assembled after delivery, investigating the problems of packing and transport, and the special needs of the new markets. The director of one furniture firm which, as well as producing its own ranges, manufactures foreign designs under licence in this country, and keeps in touch with developments on the Continent by visits to manufacturers, retailers and exhibitions there, wrote: "We believe that modern design is so international it is only by making such arrangements and contacts that we will be able to compete in the next decade, which we feel will be one of great change and difficulty in our industry."

The CARPET INDUSTRY's main problems are the low cost of raw materials to the European manufacturer, the lack of a considerable consumer market on the Continent, and the question of metric sizes. The director of one carpet firm wrote: "We feel that the introduction of the Common Market and a Free Trade

Area will have an adverse effect on the British carpet industry. The British home market consumes infinitely more carpets per head of population than any of the Continental countries and is therefore the prize that every European manufacturer will seek." Another manufacturer showed guarded optimism: "If the standard of living in these countries rises and if a good promotion campaign were started early enough, perhaps the Continental people would become very good clients – if we could provide the designs and colours they want." He pointed out, however, that very few manufacturers in this country have the machinery to produce carpets in metric sizes. The need for this industry to adapt itself to meet changing conditions and increased competition was stressed by another manufacturer: "We must be prepared to adapt our production and products in order to secure a reasonable share of this trade."

The LIGHTING FITTINGS manufacturer will have to deal with the different technical requirements that exist on the Continent, where there are different wiring systems, and threaded lampholders are used, rather than the bayonet type which is familiar in Great Britain. One manufacturer wrote: "We shall have to take a definite step in the manufacture of Continental type sockets and accessories, or we shall wind up in the curious position of buying parts from Germany merely to re-export them assembled in our own fittings."

Foreign competition, chiefly from Germany, Denmark and Sweden, may be a very real danger if the present 20 per cent import duty is lifted. One manufacturer wrote: "The German lighting industry is a very large and highly developed one, and the opening up of the British market might well be one of its ambitions. In the early stages of a Free Trade Area, the foreign attack would probably put a number of British firms out of business altogether. The smaller firms would have neither the production technique nor the liquid capital to withstand such competition." To meet this competition British firms will have to rely on high standards of design and quality. Another manufacturer wrote: "There is only one way to export to Europe, and that is to provide products to a very high standard of design, cleverly engineered and constructed so that they can be made economically, and then mass produced, so that our prices will compete on the foreign market."

Design policy for expanding markets

A representative of a firm producing CLOCKS AND WATCHES wrote: "This industry will be much affected by the abolition of all import restrictions. There will, however, be a greater standardisation and rationalisation in the industry. Efforts will be concentrated in a smaller field, labour may be directed from one occupation to another, but the eventual result should be big, or even larger, turnover through the wider market with a greatly reduced number of products."

Many manufacturers felt that a new approach to design would be essential. A spokesman from a firm making ADDING MACHINES, etc, wrote : "Quality by itself is not enough, but the difficulty of persuading the British manufacturer to accept the fact that his product must be changed to appeal to the eye of the Continental user is, too often, too difficult." A FURNITURE manufacturer: "Any serious attempt to develop a Continental market would involve considerable market research and the implementation of a design policy aimed at creating products which could be sold successfully both at home and abroad." A CUTLER: "Much greater investment in design and market research will be necessary if we are to take advantage of the European market . . . and we in our own firm are going to have to change our policy in several ways."

A LIGHTING FITTINGS manufacturer: "With the advent of a Common Market, there will be little to choose between British and foreign fittings, price for price. It will then be essential for British manufacturers to create really good and original designs."

A POTTERY manufacturer: "I do think that greater investments in design will be needed if the best is to be made of the European Common Market. A great deal of the pottery that is made in England today is not suitable for Europe, and if full advantage is to be taken of the market, then it will obviously be necessary for British potters to make the things that are wanted."

Changes to meet the challenge

Several manufacturers stressed the need for a new set of values to meet the challenge. The director of a firm of SANITARY ENGINEERS wrote: "Our standards are British, and until or unless we can become more Continental in our outlook we shall do little or no business." A FURNITURE manufacturer wrote: "It will take us some time to consider these new markets as home markets. We will be inclined to look on them as 'export' for some time to come. This will not produce the best result for many reasons, but particularly if a 'take it or leave it' attitude is associated with our goods." A representative of a firm producing FABRICS wrote: "The chief problem of the British textile industry is in administration and training of sales personnel in the exacting attitude to business prevalent in many Continental countries. We must not neglect the finer points of salesmanship, such as speaking the language of the country concerned, converting our prices, widths and terms of trade and specifications to the currency, etc, employed in the market concerned."

To sum up in the words of the director of a firm whose products include PLASTICS LAMINATES, boilers, fountain pens, etc: "One of the main needs of any company approaching the European Free Trade Area problems will be a better knowledge of Europe, its people and its markets. When this knowledge has been gained, designers, engineers, chemists and managers will face a great challenge in developing the products which will find favour in a wider European community. One of the main tasks, therefore, over the next few years, will be to broaden the horizons of these men and women, improve their training and skill, and fit them for the great opportunities ahead."

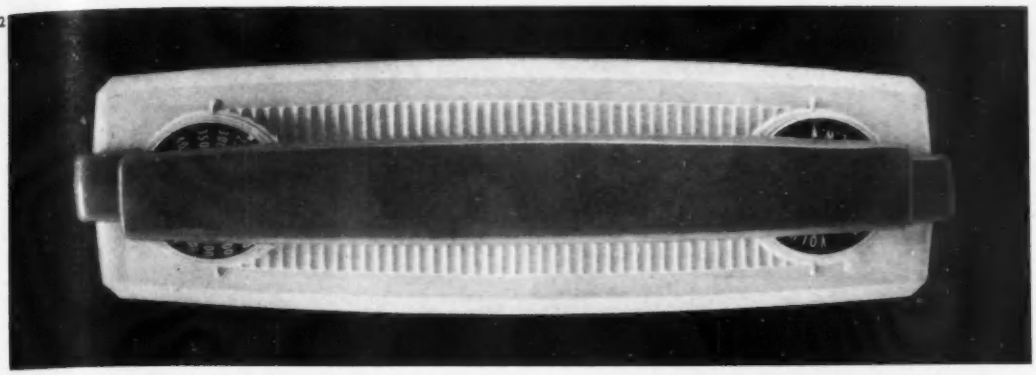
DESIGN ANALYSIS 6

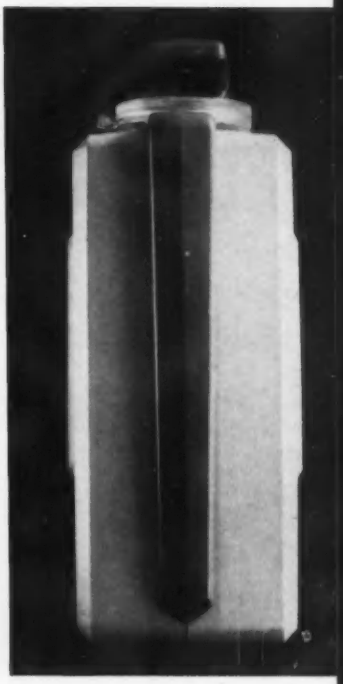
J. BERESFORD-EVANS and L. BRUCE ARCHER

The subject of the sixth article in this series is perhaps the most interesting portable radio design in current production. The authors report on a thorough test of the 'Vagabond' under domestic conditions and describe its design and manufacture. Comments from Vidor Ltd are related to the main article.

Portable radio

MAKER *Vidor Ltd.* £13 2s 6d





THE VIDOR 'VAGABOND' is immediately attractive. It appears crisp and straightforward, with a style – in the sense used of fashion goods that has little to do with 'styling' – and it promotes the coveting that can result in impulse buying or in a favourable point-of-sale decision between competing products.

When you switch it on you find the tuning to be comfortably selective, the volume good, and the quality impressive for those content to get their radio listening from portables. The weight, with batteries, is 4½ lbs and the carrying handle is so ample and firm that the set can be moved with easy confidence into any position.

The body colour is a warm grey, and the handle and trim are French blue, which make an easy colour combination for any domestic setting and yet remain distinctive. The price puts it among the cheapest portable radio receivers and, on its performance, it is good value.

Vidor comments: The receiver is also available in the following colour schemes: light blue cabinet with cream handle, trims and grille; dark blue cabinet with white handle, trims and grille.

The portable idea

The ordinary shopper might well reach conclusions such as these across the shop counter, without any specialist knowledge or careful study, and they are sound enough in that context. Before making a closer analysis, however, we should consider the status of the portable radio, so that the 'Vagabond' can be studied in its setting.

So far as goods offered for sale are a measure of market trends, it would seem that an industry chiefly preoccupied with television is also interested in the prestige and cash value of Hi-Fi; but otherwise sees steam radio as a gap-filler. For instance, there are few basic AM/FM radio sets in the lowest price ranges, though there are plenty of table-grams that rather apologetically try to offer too much. The simple truth

is that, except for those few people who resist television anyway, sound radio has become ancillary equipment for use when there is nothing to be viewed. In consequence of this relegation the portable set has come indoors and is, as often as not, the main or the only receiver of sound radio. No longer part of picnic equipment, the portable is about to develop as a general purposes instrument which is neither luggage nor furniture.

Construction

An orthodox, valve-operated battery set, the 'Vagabond' is remarkably free from background noise when compared with a mains radio. The technical design is sound, workmanlike and reasonably accessible. The great limitation lies not in the chassis design but in the small speaker. One cannot expect great fidelity and range of response from a four-inch diameter speaker set in a small box; but by portable rather than Hi-Fi standards Vidor has produced excellent results.

Vidor comments: The loudspeaker has a relatively large cone area for the lightest feasible case size and weight. It has a magnet of high flux density. It is this combination of good qualities which gives such excellent reproduction in a portable receiver.

The case is of moulded cellulose acetate butrate, imported from Germany, the two identical halves being caught together with moulded catches at the top and bottom, with a built-in metal clip at the top as additional security. This material has an excellent quality of colour and surface, but tends to come a little distorted from the mould. It is quite flexible and imprecise to the touch, so that at first one is afraid of crushing or breaking it; and as similar materials are now commonly used for toy telephones, boats, trucks and the like, there will often be a strong psychological barrier of associations to overcome. Once one becomes used to it the flexibility is seen as resilience, but on first acquaintance it can be disturbing, and confidence is not supported by the manner in which the case opens for battery replacement, **5**.

Vidor comments: No distortion is experienced if proper care is taken in production and use. The material is almost unbreakable and it is a big advance on phenolics and other types of plastics used for cabinets.

Although most battery changing will be done by a dealer to whom the complete set is handed, it appears as if the set is to be opened only by destruction, and closed with a maddening and frightening amount of ingenuity. After some initial success we must confess to having failed in our attempts to re-marry the two halves securely.

Even when properly closed the slit between the two halves at the top would allow moisture to penetrate within, **6**. The matter is not helped by the design of the metal locking clip, which is barely serious engineering.

Vidor comments: Illustrated instructions covering the opening and the closing of the cabinet are printed on a leaflet packed with every set. If the instructions are followed no difficulties will be experienced. When the cabinet is properly closed no slit remains between the two

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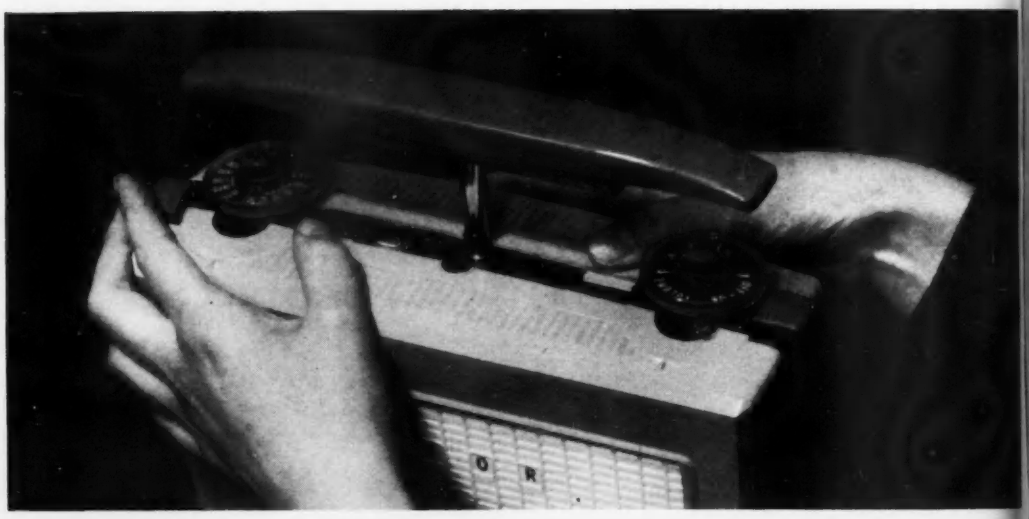

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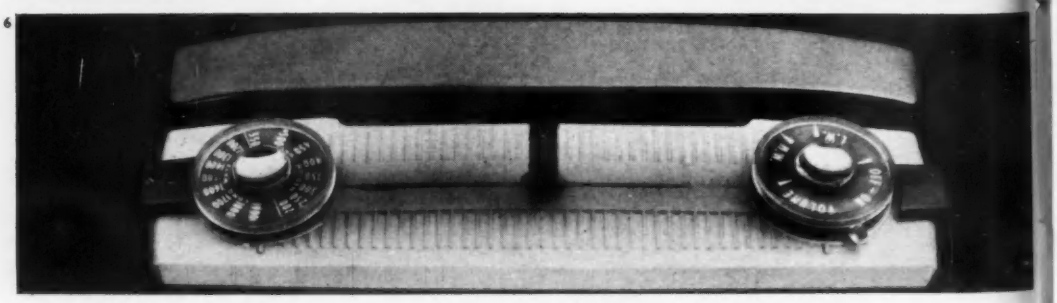

halves of the cabinet. The metal clip is not a locking clip since the cabinet fasteners are entirely adequate for locking the two halves of the cabinet together. The clip is simply a safety device which will prevent the two halves of the cabinet coming apart if the set should be inadvertently lifted when the cabinet has not been properly closed or if the set is given a sharp knock.

Batteries are tucked into the case rather like a forgotten hair brush which is thrust into baggage at the last moment, **7**. The metal holder is liable to corrosion when holding dead batteries, but the firm intends to replace this by a plastics holder.

Vidor comments: At the time the set was designed it was hoped to include leak-proof batteries. However, as leak-proof batteries are not yet available, it has been decided to introduce a plastics battery container.

The controls, **6**, look very much a part of the set, but the user needs conditioning to them. Wave change is simply and conveniently made by a small lever beneath the volume control, and tuning is orthodox. However, because there is no obvious front or back to the set, it is easily turned round so as to exchange, in the mind, the tuning and volume controls. Thus the set may easily be tuned off station in the belief that it has been switched off. This is a serious matter in a battery set and, if the front and back are not to be differentiated, there ought to be some clearly signalled on-off switch.

Vidor comments: Since submitting the receiver to you the knobs have been clearly marked with their functions; in fact such markings are not often found in sets of this kind. In designing the cabinet a good deal of thought was put into ensuring that both halves of the cabinet could be made identical to each other. Achieving this has resulted in a considerable reduction in tooling costs which has been passed on to the customer in lower prices. If the threads of the fixing holes become damaged the set can be fitted to the other half of the cabinet without extra cost to the customer. From an appearance point of view the set gains because it looks attractive from all angles.

The handle containing a ferrite bar aerial has raised and closed positions, controlled by a turning pawl mechanism, **8**, that is rather too literally hit-or-miss. In the raised position, **7**, it stands well clear of the set upon a metal column, and it is an uncomfortable surprise to find that it is not meant to rotate on this spindle as a directional aerial.

Vidor comments: The mechanism used in the handle is a well tried one for this type of work. We have designed and patented a rotating handle and this will be introduced in later models.

The two white speaker grilles are tack-welded into position, and three of these welds became separated during handling. Also one of the dial bosses, in the form of a metal button acting only as a trim, came unstuck and was lost. These are trivial matters, with parallels to be found in the finish of much new equipment in other fields, but their annoyance value is out of proportion to their worth.

Appearance

A portable of this kind may not sell on looks alone, but undoubtedly at the first impression it is attractive and a potential purchaser will be strongly prejudiced in its

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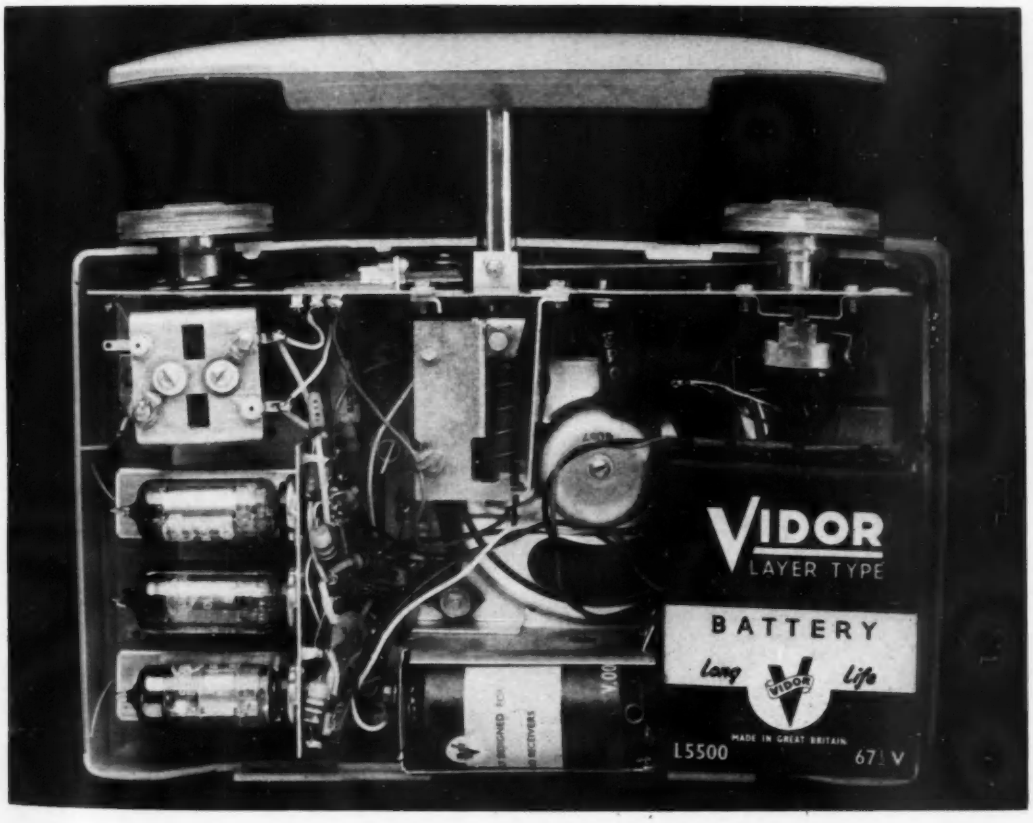

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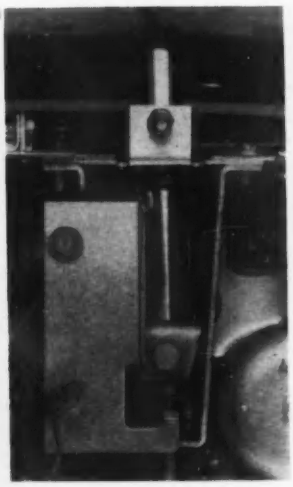

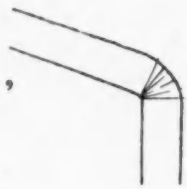
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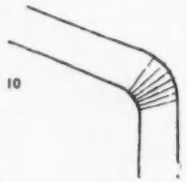
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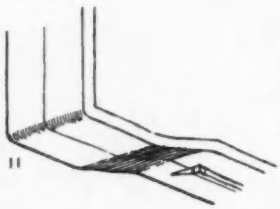
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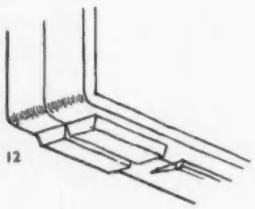

12

favour. The case was designed by W. Bruce Brown, a consultant who specialises in plastics, in collaboration with the Vidor staff, and the production model is very close to his original design.

The case has a clear rectangular shape with very slight enrichments or modifications to the simple geometry. The front, top and sides are slightly crowned, with a rather broad chamfer around the two main faces. The ends have a slight outward splay, and this is emphasised in the opening for the speaker fret. The carrying handle is recessed over the dials, so that it can fit snugly over them in the closed position. The colour of this handle is repeated in the dials and is carried down the ends in a cover trim which dies away with a small taper. These are uncomplicated means of allowing the excellent plastics colour and finish from the mould to tell fully, and succeed in the designer's main objective, which was to slim down a moderately plump shape.

The fluting across the top seems barely necessary, and a little coarse in execution. If the top has to be decorated there could have been a more subtle means of enrichment. It is a matter of taste when deciding whether it is desirable for a chamfer to turn at the apex of a cone, **9**, or as alternatively shown, **10**. We find **9**, together with the moulding round the fret opening, to be too much like a toolmaker's design. Much less supportable is the manner in which the feet are contrived. Although the chamfer is continuous, so that the transverse area is reduced across the base, the line of the front has been allowed to sag at each end, **11**, in order to reach near to the ground, when it could well have been taken straight across as in, **12**, with a projecting foot.

Vidor comments: The greater area on which the set now rests offers more resistance to sliding about on smooth surfaces.

The speaker fret, in a clear creamy white, dominates the attention. It has the conventional interrupted louvre form, but is so well detailed that one is aware of an all-over strong texture and not of the circular pierced area. The fret has an eggshell or almost matt surface, which makes a good foil to the highly polished finish on the rest of the case.

The name 'Vidor' in gold, widely letter-spaced on separate tablets, is not refined typography, but it is modest and on a broad view it sits well on the case.

The firm

The Vidor-Burndept company stems on one side from the earliest days of radio, and has been producing portable radio and batteries on a large scale since 1934. It also makes torches and cycle lamps, television receivers, industrial intercommunications equipment, electronic and nucleonic devices, and RT equipment for the Services. The production of batteries is the most important business, and from this comes the manufacture of portables and battery-using equipment.

Distribution is direct to the retailer, through area salesmen who sell and supply straight from the van; personal selling and instant delivery being the core of the business. This method has the considerable advantage of being sensitive to consumer (or at least to retailer) reactions and tastes.

Design policy

Vidor has pioneered fundamental and applied research in the battery field, while the emphasis of the work on appliances – including portables – is towards perfecting and simplifying well established techniques rather than developing new ones.

Vidor comments: This is not strictly true. The company does carry out fundamental and applied research on components and equipment relating to radio, television, telecommunications, nucleonics and process control. The company also develops test equipment for use in its own works and laboratories, as well as specialised test gear for sale.

In radios especially, and also in the pilot runs of television receivers, the aim is the pursuit of reliability. The firm has, of course, every incentive to make a set last for ever, for the longer it lasts the more batteries it will need. Obsolescence here is not the necessity it would be for a firm dependent upon the replacement of sets.

Thus, on the appearance side of design, Vidor would not necessarily want to keep abreast of high fashion, and would be more attracted to designs that had a long and dateless fashion life. Also, its selling methods bring the firm closely in touch with numbers of small retailers in country towns and this has helped to support a conservative attitude to fashion trends. On the other hand the firm has in the past been able to react quickly and easily to any change in popular demand, because its portables have been of wood covered with fabrics.

The moulded case of the 'Vagabond' is different, for it has to be right first time, although the alternative colour schemes give considerable scope for variation.

Competitive impact

Development began with the knowledge that more and more standard table receivers are being replaced by portables in the home. The portable provides a radio that can be whisked from the bed side to the bath side, from draining board to sideboard, or to the car.

Vidor is by no means alone in reaching for this market with a moulded plastics model, but the low weight, modest price, wholesome reliability and a current output of 1,500 sets a week should enable the 'Vagabond' to make a competitive impact. During the time that this kind of product and the material used for the case remain relatively unfamiliar to the public, the immediate effect of the appearance may be a decisive factor.

Vidor has had considerable experience in finding the middle level with equipment that avoided obsolescence. It hardly became old fashioned because it was hardly ever fashionable. With this plastics moulding the firm has backed a positive design statement in an up-to-date idiom; but it will probably be less concerned by the degree of conformity with – or even of leadership in – contemporary design, than by the way in which its design can transcend fashion. In 10 years' time will the 'Vagabond' be seen as an outmoded piece of styling, or a dateless classic?

Posterity looks back

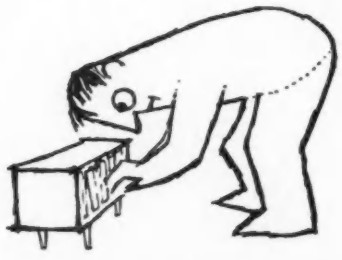
B. A. YOUNG

What are designers doing to the human race? We asked a disinterested critic – in fact the deputy editor of 'Punch' – to supply the answer. His forebodings, illustrated by Kenneth Garland, are set out below.

WHEN THE RADIO-ACTIVITY has cooled and the archaeologists from Mars are able to start reconstructing the designers of the twentieth century in the way the archaeologists of the twentieth century reconstruct dinosaurs, one of the first things they are likely to notice is how small they were. Normal humans, they will conclude, worked out at about five feet three (calculations based on the foot-room in cinemas) to seven feet (calculations based on contemporary fashion-plates), but designers come out a good foot less.

For example, in showrooms (though not so often in homes) they will find among the fossils a number of low graceful wooden objects called 'lowboys'. At first these might be taken for tables; they are about the same height, two feet four or so, which must have brought the table surface to a comfortable level in front of a seated human; but as it would not have been possible to sit in front of them, these objects were presumably approached standing; and the lower drawers in them could only be opened by a normal-sized human if bent almost double. The presumption must therefore be that they were designed for folk who were the same height when erect as men and women sitting down.

There will be plenty of evidence to bear out this theory. What are all those bookshelves doing at knee-



height? And those remarkable gramophones with the turntables in little compartments at the bottom: unless they were operated from a prone position on the floor – a hypothesis which accords with no other available data – they can only have been constructed by and for dwarfs. And as it happens, the Martian archaeologists will know that twentieth century humans were not dwarfs, for there is certain to be a mass of documentary evidence in the cellars of the ruined Ministry of Health to prove that the race was growing taller and heavier with every general election.

Whether or not designers were actually human may be a hard point to prove. Though they may not have had much contact with the outside world, they certainly had some, for a well preserved page from a contemporary newspaper, written in the quaint formal language of the time, bears an account of a mid-twentieth century duchess who slept on a bed built for a designer and claimed that it was so low that a mouse ran across her face.

How else are our designers likely to strike these Mortimer Wheelers-to-be? Well, it may seem that they had curious eccentricities of colour vision. They were intensely conscious of the existence of colour, and of the fact that all colours were not alike; but at the same time they were most reluctant, after daylight (which in London in the winter appears to have lasted only a few hours), to provide enough light in their homes to enable one colour to be distinguished from another. In the streets outside their homes and showrooms, in fact, they delighted in illumination especially designed to make all colours look exactly the same.

Can it be that these designers had some sense peculiar to themselves which gave them a kind of affinity with colours, similar to that possessed by humans with dogs, enabling them to establish *rapport* with their colours even when they could not see them? This, at any rate, is the theory put forward by Professor Mors Kajak of Solis Lacus University, South Mars. Why, otherwise, he asks, should colours have been given pet names of what now seems to us nauseating sentimentality – Middy Blue, Guardsman, Hot Chocolate – if it were not so that they could be called and

recognised by their masters in the dark ?

Equally curious is the matter of designers' memories. On the one hand it appears that their memories were extremely short. Every object they designed had to have its name on it, usually in embossed metal, quite large, frequently in calligraphic styles unlike those commonly in use by humans. And yet other evidence suggests that they took special pleasure in making the names, and indeed the shapes, of their possessions as hard to remember as they could.

Usually this was done by adding several other names as well. For example, a well preserved automobile dug out of Great Portland Street bears the inscription, reading from left to right, 'Megalomobile – Scorchmaster – Fluomatic – Stop – HPH469 – Stop – Fluomatic – Uvadit III – Scorchmaster'.

If there was any possibility that a name and a design had become so ineradicably associated that a designer would immediately connect the one with the other without putting his memory through its usual callisthenics, the design was immediately changed. Sometimes it was changed so fundamentally that only a

designer would know, coming on it unexpectedly, what it was meant for; for example, whereas the tuning of radio sets was normally effected by means of a small wheel, some designers suddenly produced sets in which it was managed by a row of keys like those of a contemporary piano. Fortunately, in cases like these there was always another designer anxious to help out by designing a pamphlet which explained everything. The method by which the pamphlet was to be unfolded was often extremely complex, but once this was done the difficulties could normally be resolved until the designer decided to work his tuning with something else.

This principle was applied even to objects of the most fundamental simplicity. For example, of the many mid-twentieth century bathrooms that have been examined, no two have taps of similar design. Even the gas taps on some neo-Elizabethan cookers were so curiously misshapen as to resemble sets of ivory dice rather than taps. The only possible explanation is that their designer was anxious not to remember what they were without an initial searching of his memory.

The tempo of life will seem to have been extremely fast, and the whole civilisation mobile. Objects normally regarded as static, such as flat irons (heavy steel objects intended for flattening the primitive silk and linen clothing of the time) and toasters (electrical apparatus for burning bread) were designed with external coverings shaped so as to avoid eddies when exposed to rapid airstreams. This constant movement may have had a religious connotation, for in some communities of designers the word 'streamline', which indicated forms adapted for swift progress through an enveloping medium, was strictly taboo. (A similar taboo was sometimes observed in connection with the word 'contemporary', but the cases are not parallel, since the objects not to be called streamlined were often in fact streamlined, while the objects not to be called contemporary were only contemporary in a strictly limited sense).

Indeed it is just possible that designers will appear to have formed a kind of priestly cult, for in many ways they seem to have been free from some of the annoyances of human life at their period. For example, we find that although humans were greatly worried by what was called the 'servant problem' – ie the absence of servants – designers still cheerfully went ahead with designs that seemed wilfully made to increase the work necessary for their maintenance.

What other explanation will posterity find for writing desks with the drawers floating free of the top surface, so that they can be dusted only by patient acrobats; and dressing tables and bedside tables on similar lines; and tables with spiked iron legs boring

into the carpets; and 'artistic' posters and periodical covers where the type is set with the wrong margin justified, or all over one side, or running vertically, and with no capitals to indicate the beginning of words; and portable pens which must have the whole inside removed to replace expended writing fluid; and kitchenware as hard to pour out of as it is easy to look at ? The whole picture, for a reasonably imaginative Martian archaeologist, must suggest a power-drunk designing oligarchy intent on humiliating the human race until it agrees to accept the designers' standards.

We must see to it that our successors on the earth are never so misled. It would be perhaps too much to ask the designers to modify their designs to bring them nearer to normal human requirements. Probably it will be enough if a few portrait photographs of the leading designers of our age are sealed up in atom-proof containers and left for the Martians to discover.

DIAL DESIGN *basic functional requirements*

The primary purpose of a dial is to transmit information from the machine to the man. The complexity of modern machinery, and the increasing speed and accuracy required from the operator in reading dials have resulted in advice on dial design being sought from the psychologist. The following article sets out some of the basic functional requirements.

BRIAN SHACKEL
the author of this article is an engineering psychologist at EMI Electronics Ltd.

THE FAULTS of inadequate dial design are often not apparent because the great adaptability of the human being allows him, *in time*, to make a reasonable attempt at most tasks, however difficult. But this fact should not justify or allow the acceptance of imperfections. So far as the human operator is concerned, as the functional design for his use is improved so does his task become easier and often speedier, his chances of error diminish, and less skill and less training may be needed. From the research of many pioneers in engineering psychology* it is possible to establish a number of principles, although most workers would agree that many more experiments are desirable to confirm and expand our knowledge.

Of course we should not criticise strongly, especially in the case of the more stylised dials, without first deciding the importance of a particular dial to the correct working of the machine or system as a whole. Relatively speaking, function is a little less important with the car fuel gauge than with the speedometer, or with the wrist watch than with the broadcasting studio clock. Therefore it is reasonable perhaps to accept the argument that, if a compromise is necessary, aesthetic considerations should take precedence over some functional requirements in the case of the fuel gauge and the wrist watch.

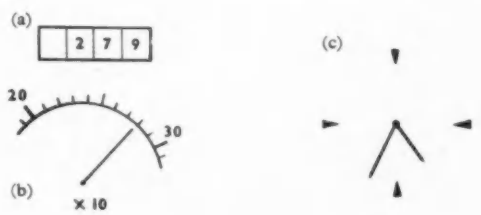
Functionally, a good dial or visual indicator is one which allows the best combination of speed, accuracy and sensitivity when transferring the necessary information from the machine to the man. This criterion of 'the best combination' cannot be defined absolutely, it depends upon the specific system under consideration; in some cases speed is more important, in others accuracy, ie avoidance of error or ambiguity, in others again sensitivity, ie detection of the slightest change in the variable being measured.

Before the details of a dial or visual indicator are designed the following items of basic data are needed:
The total range to be indicated of the variable about which information is to be transmitted.
The maximum accuracy and sensitivity required in the transfer of information.
The maximum equipment error of the unit about which information is to be transmitted (a detail often overlooked).
These data are needed to decide upon the appropriate size for the dial, and upon the correct scale range and number of scale divisions. If there are too few scale divisions, information may be lost and reading errors may occur. If there are too many scale divisions, time will be wasted (*speed of reading decreases as the number of markings on the scale increases beyond the optimum*). Also a spurious sense of accuracy may be given if the dial is read to one unit (the smallest engraved unit) when inherent equipment error causes the system to be accurate only to, say, two units.

*For further reference

'Design and Use of Scales, Dials and Indicators', E. G. Chambers, MRC Applied Psychology Research Unit Report No. 254/56.
'Applied Experimental Psychology', A. Chapanis, W. R. Garner and C. T. Morgan, John Wiley and Sons, Inc; Chapman & Hall Ltd, £2 12s.
'Human Engineering Guide for Equipment Designers', W. E. Woodson, University of California Press; Cambridge University Press, £1 6s.

General principles *for the design of dials to be used at normal reading distances (about 12–30 inches).*



1 Contrast Scale numbers, scale marking strokes, pointers, etc, should contrast well in tone and colour with the general dial face. It is essential to combine this factor with good illumination, absence of glare or reflections, and good positioning of the dial reasonably near to eye level and not far from 90 degrees to the line of sight.

2 Counters and dials For transmitting precise numerical information a counter is better than a dial, **a** and **b**. Dials, however, are used more frequently because they have a dual purpose – to give exact readings sometimes and rough snap readings often, **c**.

3 Moving pointer versus moving scale A moving pointer on a fixed scale is generally preferable to a moving scale

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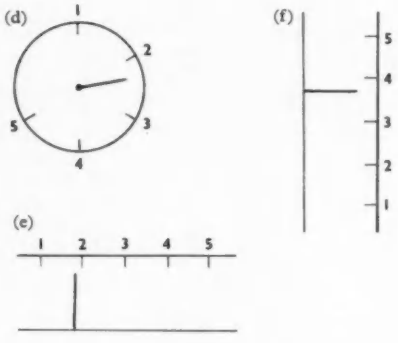
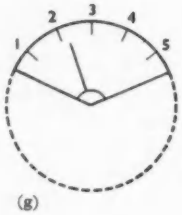
against a fixed mark. The moving pointer allows estimates of rates of change of the variable and snap readings of approximate position to be made, without actual reading of the scale numbers, as soon as the operator is familiar with the scale. (How often, when checking the time, do we do more than snap read the position of the watch hands in their quadrants ?)

4 Scale numbers clockwise Scale numbers should increase in a clockwise, left to right, or upward direction, whether a fixed or moving scale is in use, **d**, **e** and **f**. If this 'visual expectation' is not followed, interpolated readings may often be faulty.





5 The zero position The zero position and the starting point of a scale may be set wherever it is convenient on the dial face, except with the minute scale of clock-type dials, on which the 0/60 minute point should always be at the top. With variables which happen to have a range of 0–12 or 0–60 it is always advantageous to make the dial face similar to a clock, in order to make full use of the clock-reading habits developed in everyday life.

There is some evidence that both accuracy and check reading are best when the pointer is in the upper quadrant; therefore with scales which are not of the clock type the zero point should be chosen with this in mind, so that the usual pointer positions for reading occur in or near this upper quadrant, **g**.

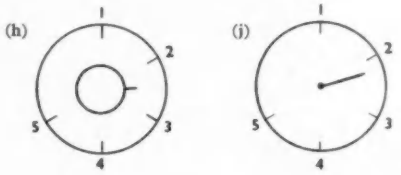
6 Scale end points The beginning and end of the scale should be clearly differentiated, preferably with a clean break separating them on circular dials whenever this is possible.

7 Scale linearity The separation, in degrees, inches or millimetres of arc, between scale markings should be the same all round the dial. Logarithmic and other non-linear scales should be avoided unless absolutely essential because of the way in which the system works. Unequal separation between markings on different parts of a scale may easily lead to interpolation errors.

8 Dial size The optimum size for general purpose dials is about 2½–3 inches in diameter; for high accuracy reading of small changes 4- or even 6-inch dials are of course advisable. When a group of dials is used primarily for check reading that a number of variables are in the correct working range (eg aircraft engine performance panels, and, more especially in the future, complex automation monitoring panels), much space and reading time can be saved by using small dials of perhaps 1¾ inches in diameter; they should be so arranged that the pointers make a uniform pattern, for instance all pointing to the 12 o'clock position, when all the variables are at the correct working value.

9 Pointer size The pointer should not obscure the scale numbers or scale marking strokes, and it should be mounted so that the possibility of reading errors due to visual parallax is minimised.

The length of the pointer is important. When only the end of the pointer can be seen, or when the pointer, although



entirely visible, is short and there is a large gap between its tip and the scale markings, **h**, reading errors increase considerably.

The optimum pointer, therefore, **j**, is one visible over most of its length from tip to pivot; its tip should reach to within 1/16 to 1/64 inch of the scale markings but should not overlap them; it should be about 1/32 to 3/32 inch wide with its tip narrowing to a point, or at least down to the width of the scale marking strokes.

10 Scale number sequence The actual numbers engraved on the dial against major scale intervals should increase in single units or in fives (1, 2, 3, etc, or 5, 10, 15 etc), or of course in any decimal equivalent of these sequences (ie 10, 20, 30, etc, or 50, 100, 150, etc).

Numerical progression

Good	Fair	Poor
1 2 3 4 5 etc	2 4 6 8 10	3 6 9 12*
5 10 15 20 25 etc	20 40 60 80 100	4 8 12 16
10 20 30 40 50 etc		0 2·5 5 7½

**Except on clocks and watches and on moving-pointer fixed-scale bearing dials, where the cardinal points of the compass are standard orienting positions.*

11 Smallest scale interval In breaking down the major scale intervals, the smallest scale interval which is marked, but has no number against it, should represent 1, 2 or 5 units of range of the variable (or any decimal equivalent ie, ·01, ·1, 1, 10, or ·002, ·02, ·2, 2, etc).

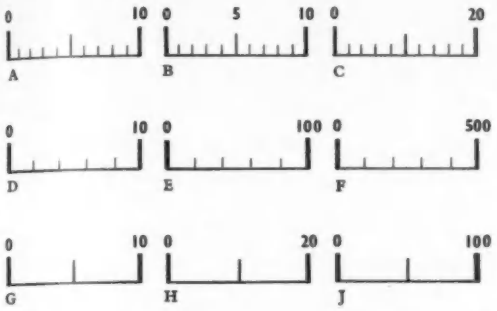
The smallest scale interval marked should not be less than the probable error of the apparatus in terms of the quantity read on the dial.

12 Scale divisions The types of scale breakdown shown at the top of page 33, are recommended except where it is essential to measure the variable on a non-decimal scale. The examples are of the form of the scale breakdown, not necessarily of the complete scale.

Thus, if we require a dial to read from 0 to 100 we shall probably use ten sections numbered 10, 20, 30, etc, to 100, of types A, D, or G on this table.

Similarly, if we need a 0 to 10 dial we may also use ten sections of types A, D, or G, this time numbered 1, 2, 3, etc, to 10.

For 0 to 50 we may use type B, numbered 5, 10, 15, etc, to 50; for 0 to 200, perhaps type C numbered 20, 40, 60 etc, to 200; and so on.



13 The choice and size of scale divisions In general the best type of scale for combined accuracy and speed of reading is A in the table above; the accuracy of reading is only very slightly diminished with G.

In both types the optimum distance between the major scale markings (the marks for 10 units in A and G) is between ½ and 1 inch along the scale itself, regardless of the dial diameter. The distance between minor scale markings (the marks for the units in A) should seldom be less than 0·05 inch along the scale; the preferred interval is 0·05 to 0·1 inch.

Numbers should in most cases be engraved only against major scale divisions, i e the numbers should tend to be a ½ to 1 inch apart; this does to some extent depend upon the scale breakdown, and individual judgment must of course be used.

The general principle here, with scale markings and numbers, is that within reason the cleaner and less cluttered the scale is, the better it will be read. Since scales on the whole tend to have too many rather than too few markings, the application of this general principle may sometimes bring certain manufacturing advantages with it for good measure.

14 Letter, number and scale stroke dimensions The following dimensions are recommended for engraving letters, numbers and scale marking strokes on dials which are to be read at normal viewing distances (i e up to a maximum of 3 ft).

Letters and numbers

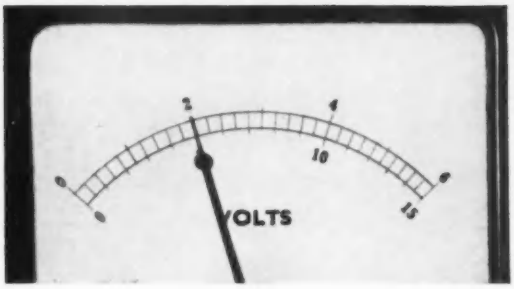
	Minor	Intermediate	Major
Height of letter or number	0·094 (3/32) inch	0·125 (1/8) inch	0·187 (3/16) inch
Width or thickness of stroke	0·015 inch	0·020 inch	0·025 inch

With a black character on a white background a height to stroke thickness ratio of about 6 : 1 is best; with a white character on black a height to stroke thickness ratio of about 10 : 1 is best. In general the optimum height to width ratio of the character itself is about 3 : 2.

Scale marking strokes

	Minor	Intermediate	Major
Length	0·094 (3/32) inch	0·156 (5/32) inch	0·219 (7/32) inch
Width	0·015 inch	0·020 inch	0·025 inch

1



2

1 A common mistake in dial design is to allow the pointer to overlap the numbers; quite often this can be tolerated, but not if the number is completely obscured as in this dial. Extra intermediate scale numbers (1, 3 and 5) should have been added on the top scale only; and the extensions of the scale marking strokes both above and below should have been longer and bolder.

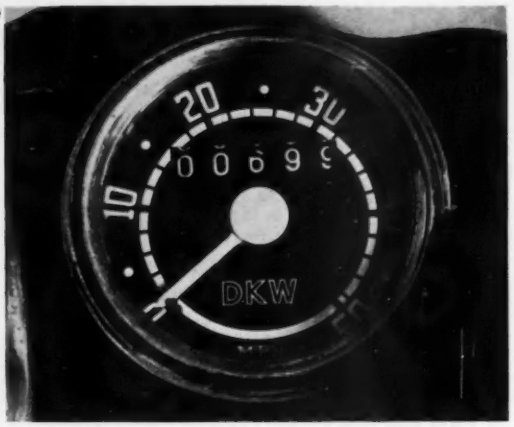
2 Dials such as this are fortunately rather rare; the thick part of the pointer completely obscures the marking strokes of the lower scale and the smallest engraved interval is respectively 0·06 and 3 units on the two scales; some computation is required to make a reading.

3 Scale numbers written horizontally instead of radially facilitate quick reading, but this is hardly a clean, uncluttered dial. It would be interesting to know why a considerable proportion of motor cycle speedometers are thus designed with 0 at 1 o'clock. Although the pointer correctly rotates clockwise, the result is that in the bottom quadrant the scale numbers increase from *right to left*; this might lead to interpolation errors – e g 75 for 65.

3

DIALS

4



4 The ring of dashes here subdivides the scale into twos; the dots at 5, 15, 25, etc, give a scale breakdown into fives. These two types of breakdown are in complete opposition. Also the over-bold ring of dashes seriously distracts attention from the pattern of pointer alignment against the scale number.

5

5 A pointer on a fixed scale allows snap readings to be made by pointer position alone, without actually reading the scale number, whereas with a rotating dial the user is compelled to read the numerals; this is not necessarily a disadvantage, provided the moving scale does not vibrate or swing rapidly.

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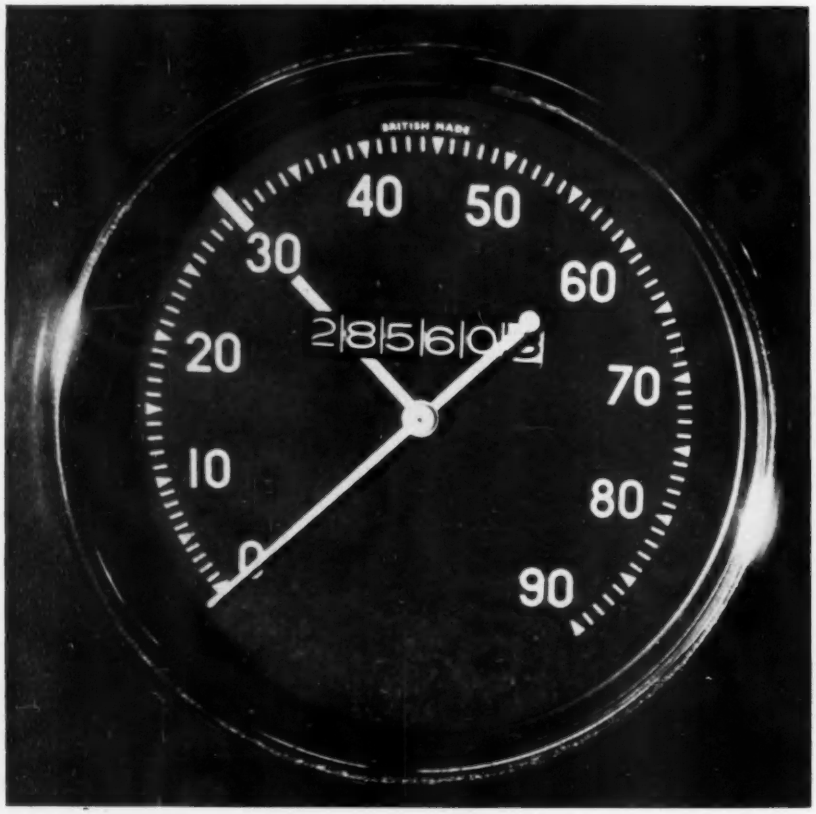


6 Straightforward dials with good contrast can often be simplified; unit scale marking strokes are probably not needed in the average car or commercial van, and the pointer should not obscure the marking strokes or overlap the numbers too much. Also the tail of the pointer is too long. However the numbers are clear and bold; moreover the fixed line at 30 mph facilitates rapid check reading, and is unfortunately omitted on many car speedometers at present.

7

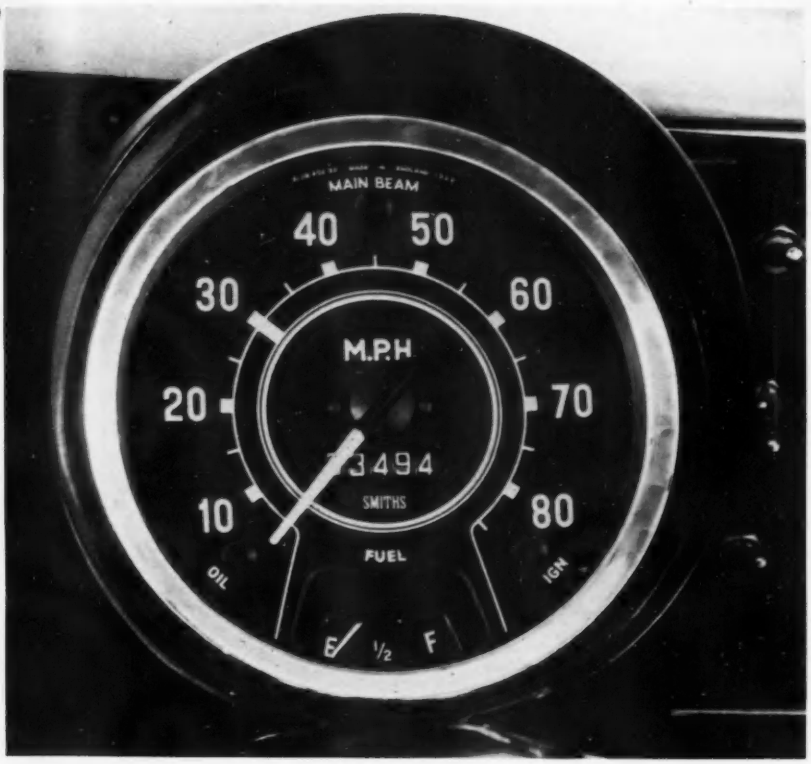
8

7 Non-linear scales, especially those with the pointer tip some distance from the scale, can be difficult to read. On this dial, in the much used region around 30 mph, only the tip of the pointer will be seen against a background of letters and numbers, which provides a poor contrast.

8 The light grey lettering on a light blue background of this dial may be a pleasing colour scheme, but it does not contrast well; compare the contrast of the white on black mileometer figures. Enlarging the significant first numerals is a sound idea, but their separation from the pointer tip must have been sensed by the designer, who has tried to bridge the gap with leader lines.

9 A bold, simple design can often be marred by small details. The letters MPH are presumably necessary here to distinguish from the possibility of KPH, but after they have been seen once they are no longer important. They should be very much smaller and preferably not placed in the area swept by the pointer. Again, the bezel of this dial is so deep that from the normal driver's eye level not merely the scale marks, but even part of the top scale numbers, are obscured. The change in the number alignment is confusing.

10



10 Another example of a basically good dial marred by unnecessary details. The central double ring with the kick at 30 mph is not an adequate pattern marker for 30 mph, and it seriously interrupts the line of the pointer to the scale numbers. The ring on which the scale marks are placed also breaks the pattern.

Conclusions

A number of the points detailed above may seem at first sight to be somewhat refined when considering practical dials such as car speedometers. The degree of contrast, for instance, and the exact length of the pointer may perhaps be thought not quite so vital when the instrument is to be used mainly for approximate readings. The details are however vitally important, especially for rapid snap reading; at the typical distance of the speedometer from the eye, clear, detailed and accurate vision at any one instant, without any eye movement, is only present over a circle of about 1¼ inches in diameter. You can test this for yourself by staring firmly at the full stop at the end of this sentence; if you can see *clearly* any letter more than about three words away, you have cheated and moved your eyes. This means that, if the pointer tip stops well short of the scale, an eye movement will be necessary to make sure of the reading, thus lengthening the time taken. The longer it takes to read a dial, the longer are the eyes away from, for instance, the road.

Again, good contrast can help to diminish reading time because clear vision does not stop completely at the edge of the 1¼-inch circle. Acuity is good at the centre of the circle and diminishes rapidly to the edge of it and beyond; however, clear bold numerals will be readable even outside the edge of this circle of vision, whereas poor contrast ones may not be readable even when they are just within it.

The use of the data given in this article does not, of course, ensure that the final design will be aesthetically satisfying, but it can help towards the design of dials which are good transmitters of information. It provides a guide, a set of rules, to which the dial designer can work – and know that the result will transmit information efficiently. Where the designer has no such guide he may be led to produce designs, as can be seen in some of the accompanying illustrations, which may be visually dramatic but functionally less than perfect.

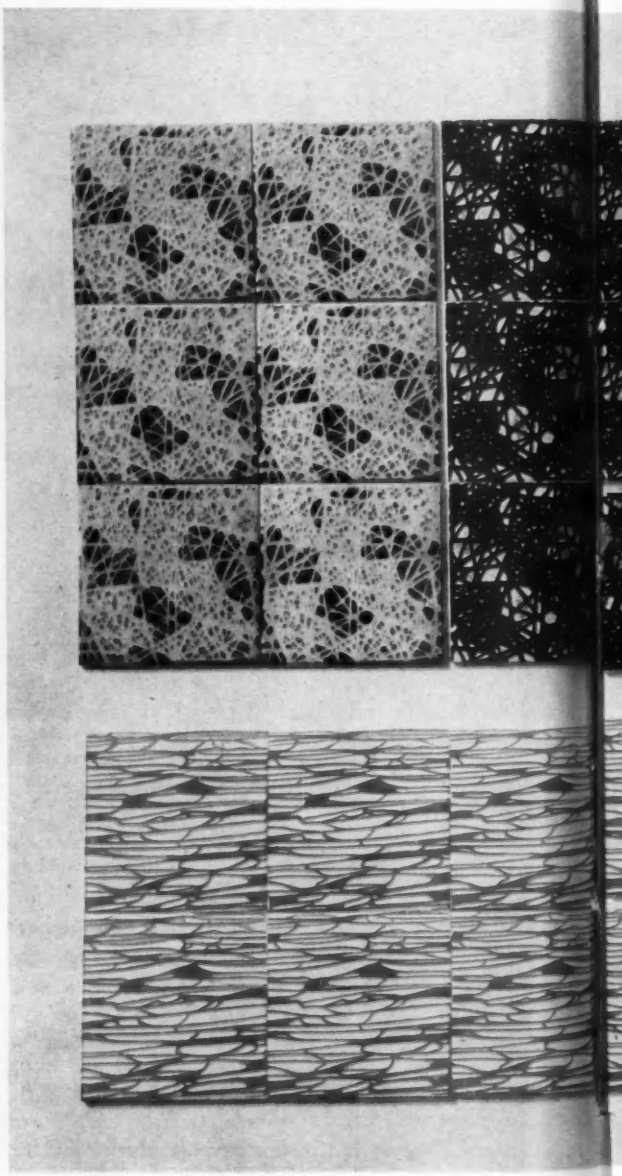
Tile abstracts

GILLIAN E. NAYLOR

GEOMETRIC PATTERNS have in recent years been the main source of inspiration for the tile designer – whether for the tile as a single unit or for the pattern-making variety. However, with the 'Effect' series of glazed ceramic tiles, made by H. & R. Johnson Ltd, and shown here, the designer has aimed to break away from this tradition. He has conceived the tiles as single units which are interesting in themselves, but has designed them so that the repetition of the units forms an abstract pattern when the tiles are made up in panels or on wall surfaces.

Derek A. Hodgkinson, who has recently been appointed staff designer to Johnson's, is responsible for the range. The selection illustrated here shows only a few of the many new patterns he has produced during the past six months. Mr Hodgkinson has had some six years' experience of both design and manufacturing

One of the patterns in the range, based on natural rather than geometric shapes, a complete break from the geometric type of pattern-making tile foreshadowed in 'Opportunities for Tiles' (DESIGN August 1956 pages 25–32). The tiles illustrated here are four and a quarter inches square; six-inch tiles are also available.

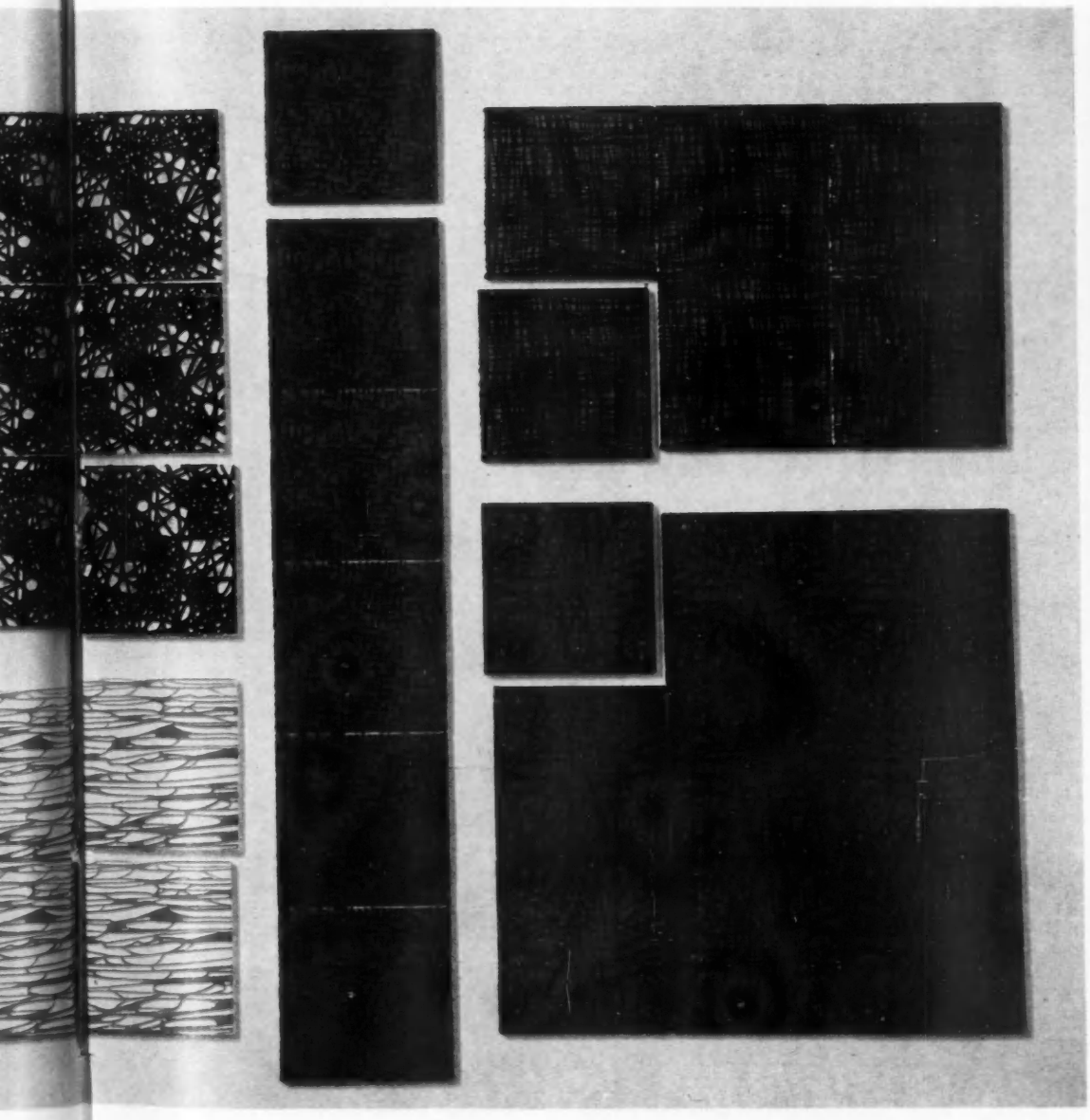


A few of the many patterns in the range; the tiles are silk screened on glaze, and in an exceptional range of colouring. Photographic positives and negatives are used in combination, almost doubling the number of patterns available.

methods in the tile industry. He worked for a tile manufacturer in Staffordshire when he left school; later he joined the design team of another firm, working in its London office. He believes that the British industry is well equipped to produce a technically perfect tile, but he feels that the development and use of silk screen printing offers exciting new possibilities, both for colour and pattern, that few designers and manufacturers have exploited.

The 'Effect' series is remarkable for the richness and variety of the colourways available. The tiles are silk screened on glaze by means of the 'Autotype' process. For this the original design is photographed, and a positive made. The design is then transferred to a sensitised gelatine which is used as a negative for producing the screen. More than 60 base colours are used, and the tiles are overprinted in a wide range of colours; the number of patterns available is almost doubled by making use of photographic positives and negatives in combination. Some of the patterns are very successful, but others, though interesting as individual tiles, could produce a restless effect when made up in large panels.

Mr Hodgkinson is the first staff designer Johnson's has appointed, and the management has given him full responsibility for the firm's design and advertising policies. He has redesigned the address labels and the boxes the tiles are packed in, and is bringing out new designs for sales leaflets and publicity material. He also has a free hand to produce new ranges of tiles, and is now working on a series which uses a special technique in glazing. The firm hopes that this new range will be in production later in the year. Further projects include designs for fireplaces, and fireplace tiles.



Derek A. Hodgkinson, *who designed the 'Effect' series.*

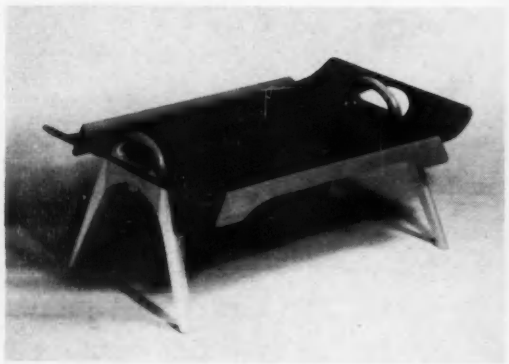
Review of current design

A selection of items recently accepted for inclusion in 'Design Review', the CoID's photographic and sample record of current well designed British goods. 'Design Review' forms an essential part of The Design Centre, 28 Haymarket, SW1, which is open on weekdays from 9.30 am – 5.30 pm, and on each Thursday after February 12 until 7 pm.

All retail prices quoted
are approximate and include purchase tax where applicable

1 Salad bowl in glazed pottery finished in various colours, and black or white; wooden servers have glazed pottery handles with same finishes as bowl. MAKER *C. H. Brannam Ltd.* *£2 3s 2d (set).*

2



2 Folding table/tray in kiln dried white beech, resin bonded plywood and veneered sapele mahogany. MAKER *Edward Doherty & Sons Ltd.* *£3 5s 6d.*

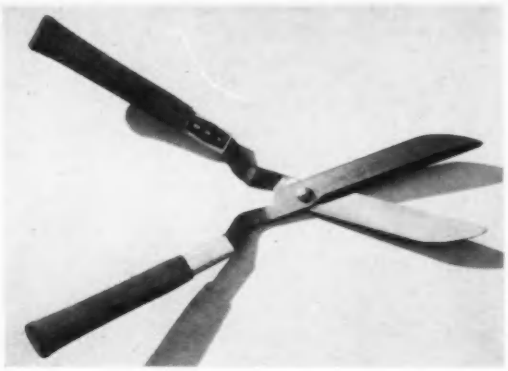
3

3 Arm chair with black stove enamelled metal frame; upholstered in leather, tweed, or wool face cloth. DESIGNER *Terence Conran.* MAKER *Conran Furniture.* *£17 (leather); £15 11s 3d (wool face cloth); £14 9s 6d (tweed).*

4

4 Toilet pack in coach hide with waterproof lining; damp proof finish in tan, or other colours to order. DESIGNER *G. L. Yates.* MAKER *John Douglas, Sons & Co Ltd.* *£4 12s.*

5



5 Garden shears with blades of polished steel and handles of seamless drawn oval steel tube covered with rubberised-felt grips. MAKER *Brades & Nash Tyzack Industries Ltd.* £1 3s.

6 W C brush and holder in self-coloured polythene or with base in various colours. Bowl for disinfectant incorporated in base. DESIGNER *H. N. Ewer.* MAKER *G. & E. Equipment and Contracts Ltd.* 11s 10d.

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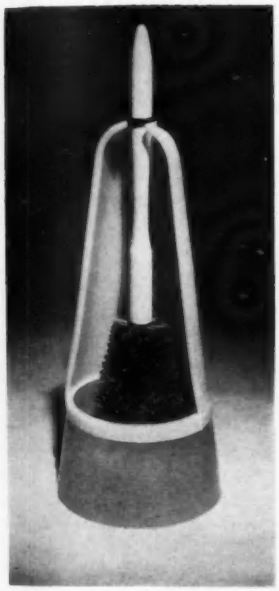

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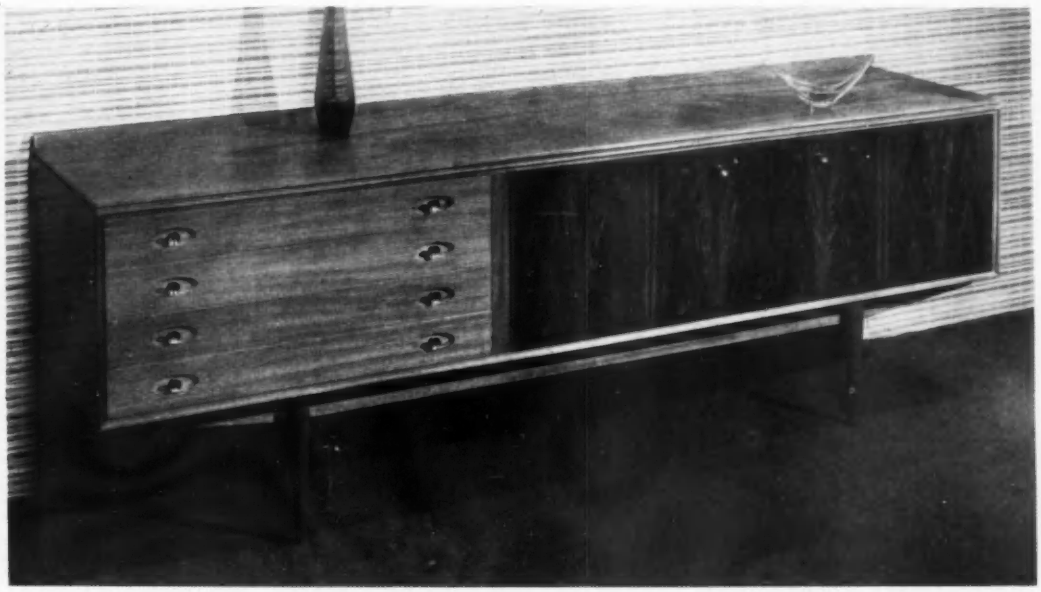

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7 Sideboard in rosewood and mahogany veneers with natural waxed finish; brass handles. DESIGNER *Robert Heritage.* MAKER *Archie Shine Ltd.* £60 12s 8d.

8 Lever handle in aluminium with silver, bronze or other coloured anodised finishes. DESIGNER *Roger Peach.* MAKER *Dryad Metal Works Ltd.* *£1 10s per set; plain round escutcheons for use with mortise lock, 2s 9d extra per pair.*

9

9 Whistling kettle in chromium plated brass with black plastics handle reinforced with metal; base fitted with copper coil for heat conduction and retention; suitable for gas burners. MAKER *The Prestige Group Ltd.* £2 14s 6d.

AUTOMATION *at work*

L. BRUCE ARCHER

When a Liverpool firm specialising in the milling of animal feeding stuffs recently turned over its London mill to automatic production, the management found that there was no need to replace the men on the shop floor by a team of highly trained technicians.

A view of the weighing bay before introducing automation plant.

ONE OF THE POPULAR NOTIONS relating to automation is the idea that it displaces the old labour force of unskilled and semi-skilled men and women by a new *élite* of highly trained technicians, and that the new men on the shop floor are drawn from a higher stratum in the intellectual and social scale. If the experience of R. Silcock & Sons Ltd is anything to go by, this theory is fallacious.

The London mill, which Silcock's has recently turned over to automatic production, is engaged in the milling and processing of animal feeding stuffs. This trade has been notorious for providing one of the dustiest and most unpleasant of working environments. Before automation, the work consisted largely of humping sacks of grain and meal, stacking and unstacking raw material in dusty warehouses, tipping sacks into hoppers, and emptying hoppers into sacks. The avowed intention of this new mechanisation programme is to take the hard work out of the job and the dust out of the atmosphere. An enormous network of conveyors and elevators has been installed so that it is now possible to transfer materials with a minimum of man-handling from any of the numerous dockside, rail and road unloading points to any of the processing machines.

The whole plant is controlled from three push button consoles. One deals with the unloading of materials from warehouses, dockside, road or rail, and their conveyance to storage hoppers. The second and principal control console handles all the blending and mixing; while the third, which is really an auxiliary to the second, controls the grinding machines. These push button and mimic panels are operated by a total of three men with three assistants on each shift. Also on duty in the plant are six labourers and a shift maintenance fitter and electrician.

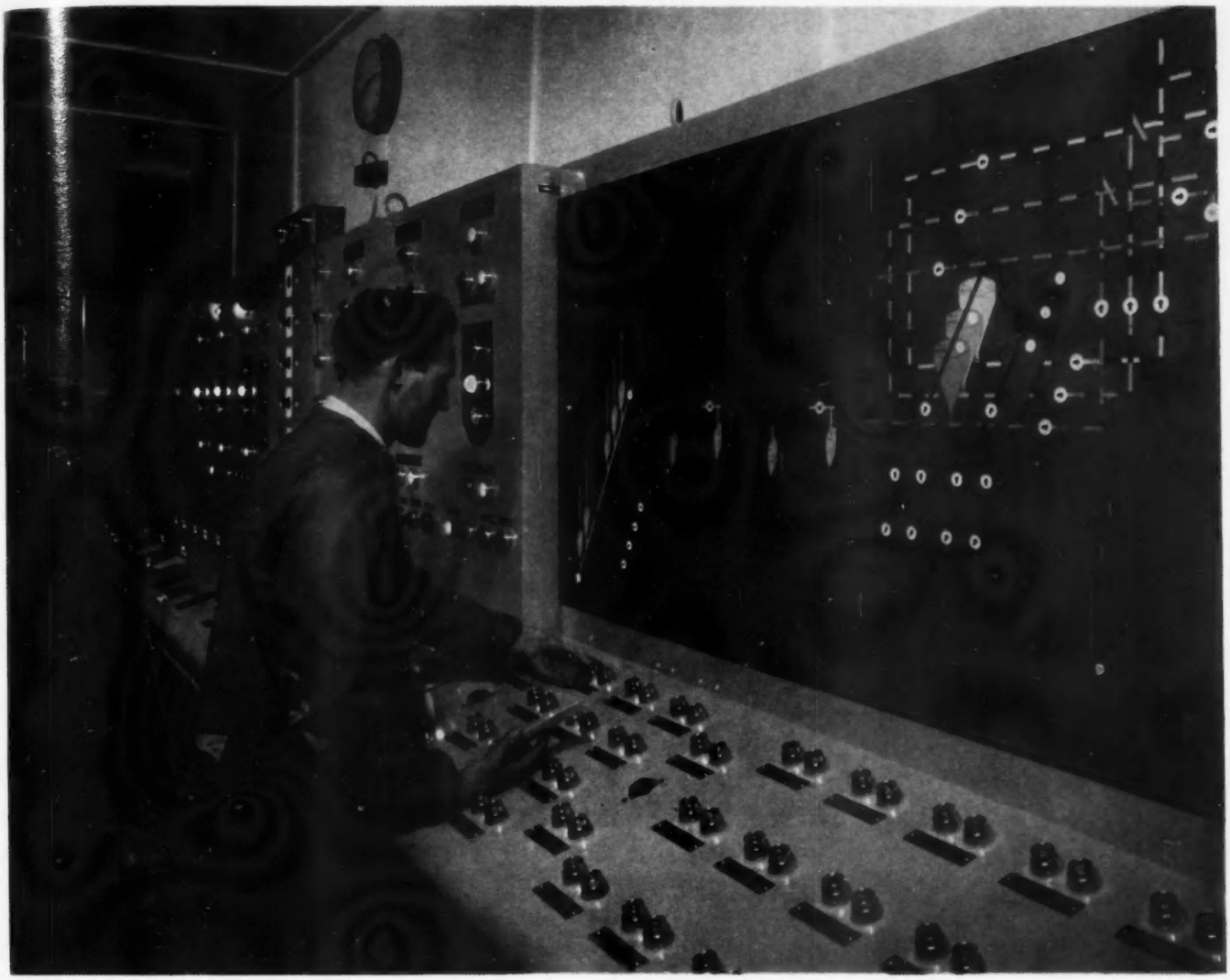
The finished products, after processing, are filled into sacks through up-to-date weighing and packing machinery. The bags are then palletised and taken to the despatch points by fork lift trucks.

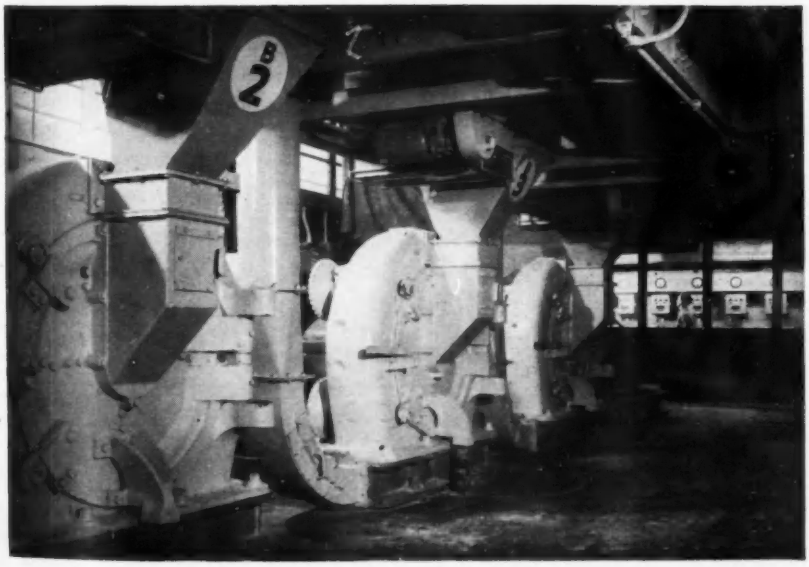
The significant point, however, is not the nature of the machinery but the nature of the labour force. The new corps are not new employees. The men operating the awe-inspiring electronic control stations were selected from those who were operating the old type plant only a few months ago. The management has found that what is really required is neither technical training nor even an especially good general education, but integrity and a reasonably high intelligence quotient. Integrity is required because each man works almost alone and carries much responsibility, and intelligence is required because action is demanded mainly when something goes wrong, for then the unexpected or conflicting signals which spell trouble require swift and shrewd interpretation.

New attitudes

The new nature of the work, the fact that the men are in very small working groups, and the unaccustomed tempo which involves long periods of inactive vigilance interspersed with moments of quick decision and rapid action, all conspire to create different attitudes of man to man, man to machine, and man to management. The management has recognised this and has provided many encouragements to more gracious living in the plant. Clean and bright surroundings and modern ideas in design abound in the works, the canteen and the recreation rooms, making a dramatic contrast to those parts of the works which have not yet been modernised.

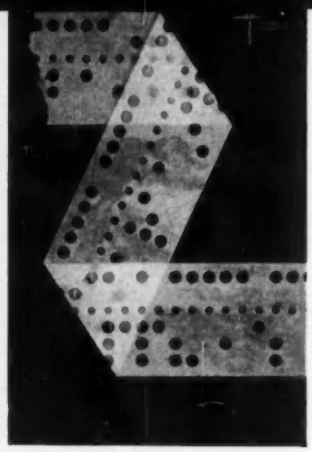
Of all the conclusions which can be derived from this enterprise, however, the most portentous is the evidence that the running of an automatic plant demands the same degree of superiority in integrity, intelligence, and enlightened attitude towards man and machine from the management as it does from the men. In the team led by F. J. Knight at its London mill, Silcock's has just such a management.





▲ The principal console shown here controls all the blending and mixing operations in the mill. The mimic was designed by Silcock's technical staff, and made for the firm by Allen West Ltd.

◀ The new grinding machines are fully automatic, and the manual re-setting operations are all done by remote control from the auxiliary console in the background, designed and made by Silcock's technical staff. The control booth is air-conditioned and acoustically insulated against the deafening roar of the machines.



Automation and design 5

J. CHRISTOPHER JONES

Metropolitan-Vickers Electrical Co Ltd

Social and aesthetic effects

This last article of the series begins with a summary of the many aspects of automation that have been described and the design changes to which they seem to point. The remainder of the article is concerned with the mental stresses to which our present mechanised industrial system gives rise; the possibilities of relieving such stresses by an ergonomic approach to design; the possibility that the automation environment will be less artificial, and also less human, than our own; the suggestion that the irrationalism of modern art may foreshadow a growth in irrational behaviour as production becomes more automatic and therefore more rational; and finally, the images, or aesthetics, that seem to express the idea of automation in visual terms.

Previous articles in this series:

1 'Automation and design' *July* 1957 pages 27–30
2 'Input/output devices' *August* 1957 pages 15–19
3 'The products' *October* 1957 pages 44–51
4 'Work and leisure' *December* 1957 pages 50–53

AUTOMATION WAS DEFINED in the first article as "the use of machines to run machines". In succeeding articles it has seemed that the word can be usefully related to many things outside the automatic factory – far more things than might be admitted by the engineers to whose work the word was first applied. The following summary of points already discussed and the succeeding paragraphs on social and aesthetic effects, are intended to reinforce the original suggestion that automation is the basis of a new way of life, lacking the inhumanities and evils of the mechanical era and renewing many of the more humane and natural characteristics of a craft-based society.

Summary of design changes

"The use of machines to run machines" implies the use of information handling machines such as computers, radios, television and telephones, instead of routine brain workers. It also implies the division of the production system into two distinct parts: the central mechanisms where materials and information are processed and the input/output devices through which initiators and users of the system keep in contact with it. Central mechanisms might resemble chemical plants and telephone exchanges; input/output devices might resemble telephones.

Automatic equipment tends to be more flexible and less specialised than operator-controlled machines and tends always to the ideal of keeping materials at rest or in continuous motion in a straight line at constant velocity.

The users and initiators of an automatic system would have few occasions to visit the central mechanism but nevertheless would be in very intimate contact with it, and with each other, through input/output devices. Such contact would make it possible to carry out mental work at irregular times, and at home, or in any other convenient place, thus breaking down the traditional barriers between home and work place. The present barriers between designers, manufacturers and users would be replaced by contact so intimate as to equal, or exceed, that between craftsman and client.

Skill would once again be a necessity for all – skill in mental craftsmanship for the carrying out of industrial work (i e initiating, making changes to, and maintaining the automatic production system), and skill in manual craftsmanship for a revival of domestic crafts.

Designing and selling as we know them might disappear from the industrial scene to be replaced by logical design methods and service marketing. Products could be exactly matched to individual users' requirements but would remain the property and responsibility of the system and be maintained by it.

The replacement of selling by service marketing might mean the end of shops and commercial centres, dispersed input/output devices would replace office buildings, the elimination of travel to work might eliminate rush hours and traffic congestion, greatly alter road patterns and perhaps remove the purpose of underground railways. The absence of pollution near automatic factories would remove the need for zoning,

for residential areas, for suburbs and for urban sprawl. Such redundancies would tend to occur in places where people now gather with the chief purpose of exchanging knowledge, experience and information. Schools, colleges, council rooms, board rooms, consulting rooms – these and many others seem to be subject to replacement by some form of television communication. We are left asking ourselves whether or not the desire to meet people in person will prove sufficiently strong to override the inevitably less complete contact through electronic devices.

The house as a work place will certainly differ from the houses we have now. It is probable that as factories become automatic and standardised and the purpose of public places diminishes, the house and its equipment will become more and more the field for creative design. It may be that houses and the domestic equipment that they contain will cease to be as cheap as possible and will acquire the quality, originality and intelligence of the best industrial achievements. Imagine a house that is as well designed as a jet engine, or a chair that is as well adapted to its purpose as is an electronic valve.

Retreat from mechanisation

The house of the future may be something much more professionally designed and professionally organised than any that we know now. With the romanticism of the mechanised era gone or dying away the logical solution to a domestic problem will become acceptable. It will not be cast aside in favour of such bits of irrelevant and self-deceiving symbolism as now prevent the use of any solutions which do not make the house look like an expensive, semi-rural, non-industrial, status-enhancing retreat.

Such houses – those of the majority – the modernised mock cottages of the housing estates, are at present anything but an attractive prospect to designers. Even the architects have abandoned them. It may be that this is because the house as a retreat from inhuman industrial work and from polluted industrial environments is so negative a thing, and because this negation has been filled with such backward-looking romanticism as to preclude any positive or purposeful designing. It may also be true that the aversion from the unpleasant industrial present which leads us to look to the past for our domestic architecture, has the same stultifying effect on design as does the impulse to clothe our cars with the imagined forms of the science-fiction future, 1. But deplore them as we may, these present romanticisms can hardly be avoided, for they are surely the inevitable reaction against the inhumanity and crudeness of the era of mechanised production, which lacks the wide and fast information channels that we have seen to be an essential of any humane existence. The end of that era is the beginning of automation.

The final stage of automation is more likely to be a static than a changing one. The present idea of a continuously expanding economy and a 'rising' standard of living may be replaced by the fixing and maintaining of optimum material standards beyond which progress

1 It may be that the unpleasant aspects of our industrial environment force us to want echoes of the past in our domestic architecture and the symbolism of science-fiction in our cars. Photograph of house by courtesy of the Architectural Press Ltd.

will not be considered worth-while. We may no longer try to satisfy our need for change and achievement by making the continual changes to our material standards and social structure that are at present called progress. In a secure and stable society the desire for change would be satisfied in those personal and individual activities that leave the social and industrial structure unaltered. There might then be more individuality, more self-assurance, less self-examination, more art, less self-conscious design, more achievement of, but less wishing for sustained and developed social and personal relations. There might also be more personal conflicts and less war.

Survival through design

This subtitle is taken from a recent book of that name by Richard Neutra. The book is concerned with the very high level of mental stress to which we are all subject when we participate in industrial life and all that goes with it. This stress, which Neutra believes to be a result of the inhuman aspects of a mechanised environment, and to which he attributes the appalling incidence of mental illnesses is likely to be the end of us if we do not bring it under control*. And as an architect and a designer he naturally sees the means of doing so in a reshaping of that environment by design.

We have seen that all the unpleasant inhumane elements of the stage before automation, in which we live

* In a recent series of articles in 'The Sunday Times' called the 'Stress of Life' it was reported that the results of a survey taken in 1953 showed that in urban practice the proportion of stress disorders in the total volume of illness was 20 per cent; that is, one patient in five had symptoms caused by emotional tension.

Photographs by John Garner

commercial environment

2 Until more subtle exchanges of information are made possible by the wide and fast channels of electronic communication we have to exist in an environment which is shaped by commercial pressure rather than by consumers' needs. Such an environment imposes a sense of strain upon its inhabitants, but until more adequate and direct channels of information between maker and user come into being these and many other examples will remain the rule rather than the exception.

at the moment, are attributable in the main to the lack of wide and fast information channels in our mechanised system. Rush hours, clock-watching, the 'soul-destroying' tasks of manual and mental repetition work, over-designing and over-emphasis on the shape of things so that they shout at us and force their way into minds made vacant both by the lack of deliberate memorising and by over-reliance on the written word, keeping up with the Jones's and all the other stresses inherent to the social mobility made possible by industrial wealth, the commercial pressures that act through advertising on all such anxieties and keep them stimulated and active so as to force the sale of any product of semi-automatic production in the absence of proper information channels to discover people's real needs; all these, and many more, are the agents of our unenviable mental condition. Insofar as these things can be expected to disappear of their own accord as the more proper and potentially humane information channels of electronics come into being we can say that Neutra's view is too gloomy and that his remedy is not needed. But considering the very long time that may elapse before a state of true automation is reached he may well be right. That period of transition, to which we are all committed, may be a critical one. At the moment it seems that mental stresses will continue to rise, and will rise very noticeably before they begin to fall, 2.

Studying behaviour (ergonomics activity)
For this generation, then, it may be well to take careful note of the argument of 'Survival through Design'. This argument is based largely on the assumption that caprice, taste, fashion, guesswork and all intention to excite the users must be removed from the designer's mind and replaced by an imaginative and humane and disciplined interpretation of all the many contemporary studies of behaviour that are called by such names as experimental psychology, anthropology, social science, physiology and so on. The use of all these means of obtaining the data for design is what we now call ergonomics. The designing that Neutra conceives to follow from such studies is an incredibly subtle and advanced form of functionalism that takes account not only of the most obvious, or even the least obvious, requirements of structure, manufacture and use, but is particularly attuned to the unconscious effects that are not obvious at all.

In endeavouring to design things that will not harmfully disturb the user's mind the designer will find himself measuring and taking account of each and every effect that the environment can have on the senses. Pattern, texture, absorption and reflection of heat or sound, smell, psychological effects of enclosure, exposure and every intermediate stage, all these and many more would be considered and allowed for in the design of every part of every article or building. Difficult as it is to see how we might find time to take so many pains (although the electronic computer could assist us) it is easy to see that the result would be to create a world much more like that of nature than is our own. The

artificiality of a man made thing might itself be lessened and we would certainly be relieved of the horror of our own creations, that at present drives us out and away from them to seek what sunlight and natural scenery remains unpolluted by our industrial activity.

The inhumanity of 'natural' design

But even to this picture there is something to add. To design in this calculating and exacting way is to a great extent rational, logical and inhuman, as is the world of nature which forms a model of what such impersonal designs might be like. This tremendous rationalism, that of nature itself, seems to underlie and prevail in every aspect of automation that has been described. Unfortunately, perhaps, it is in itself an inhuman thing and in its much more subtle way is as much a source of strain to us as any of the evils of crude mechanisation. Already it has been noted that people who are regularly confronted with industrial rationalism acquire "a paradoxical want for irrationalism and an unpreparedness to accept inevitable things".* Even the change to the more humane environment of automation is such a thing and can be the cause of anxiety and uncertainty. The prevalence of the seemingly irrational in much modern art, **3**, and the more demonstrative aspects of jazz, and so on, may well be important symptoms of an overdose of industrial rationalism and may also foreshadow a much greater social acceptance, or even encouragement, of irrational and capricious behaviour in the art and life of the society towards which we move. Possibly the irrationalism of action painting, **12**, is typical of the kind of activity that will provide us with a release from the inevitable orderliness of automation and all its effects. This development may result in certain artifacts being designed much more freely and much more 'artistically', so that we may live out our fears and anxieties without social disapproval or mental unrest. If this is the case then art in the extreme and wild forms in which it appears today will turn out to be a curiously necessary thing. This and other connections between automation and modern art are discussed below.

*G. C. E. Burger, in a paper presented at the Ergonomics Research Society's symposium on 'The Changing Demands of Modern Work and Control', Bristol 1957.

3 "The Evil in the Little Man" Paul Klee. The irrational in modern art may foreshadow a much greater social acceptance of irrational behaviour in a society increasingly dependent on an industrial system that becomes more rational as it becomes more automatic. Collection of Mrs Donald Ogden Stewart.

The three images of automation

The newness, importance and vitality of automation make it a likely source of new and significant images that can be widely recognised and felt. There appear to be three such images, each one arising from and symbolising one of the components of automation. These components are mass production, the mass market and the individual user. Mass production can be symbolised by the anonymity and repetition of the central mechanism, **4** and **7**; the mass market can be symbolised by the picture of randomness, **5**; the individual user can be symbolised by the image of man and machine in a biotechnic intimacy, **6**.

The dull and inhuman aesthetic of anonymity and repetition that belongs to the central mechanism can seldom be seen by the users of automation, but has already become a

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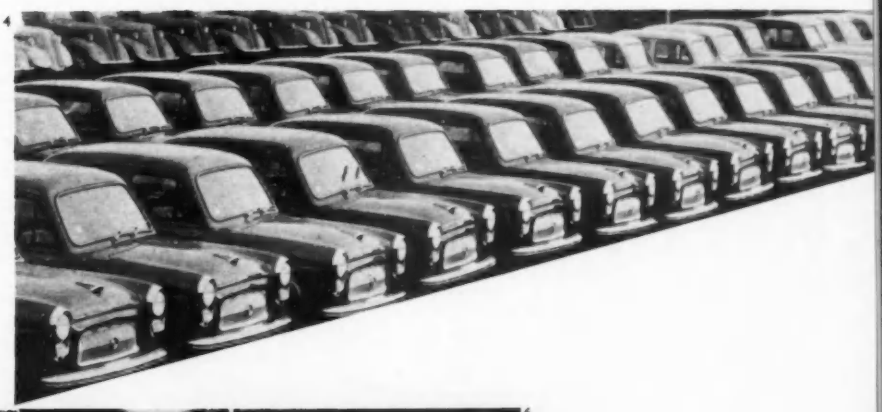

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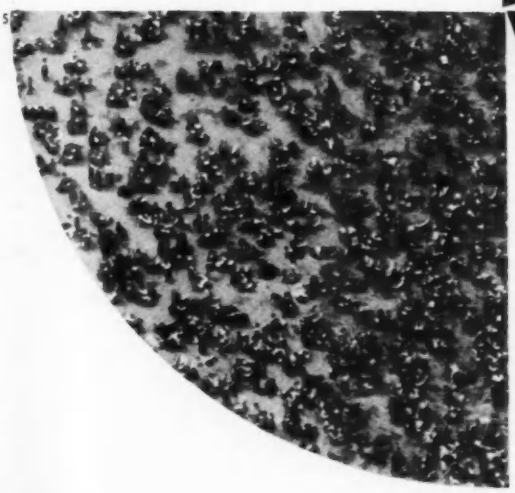

6

significant one for artists, architects and designers of patterns, **8**, **9**. More recently the random image has become significant and contemporary in much the same way, **10**, **11**, **12**. This reminds us that the concept of randomness is a much studied one today. (Information, itself, the basic ingredient of automation, can be mathematically described as the absence of randomness.) It may not be true to say that these things were directly inspired by the sight of industrial equipment; it is quite possible that such forms were symbolically or decoratively used before their industrial equivalents appeared. But the presence of so many similarities between symbolic and industrial forms must surely imply a common source of concepts and ideas. Using the word in a most general sense, that source can be called automation. As has been explained, the products of automation still wear the dress of sales appeal and, apart from the telephone and a few others, have not yet acquired the biotechnic look. This last aesthetic is too new to be clearly seen and as yet has no specific parallel in the visual arts, but it might be correctly identified with articles that are most obviously adapted to human use, **13**. Certainly it should be the aesthetic of the input/output device and it could also be that of the automatically manufactured domestic product.

These three aesthetics, or images, are related in a most interesting way to the human scale or size. As in nature, so in automation, the things that are far removed from the human scale are bleak in their inhumanity. The straight line itself – the ideal of automatic production – leads in each direction to a remote and unimaginable infinity. When things are large, either in size or because they cater for larger groups of people, **7** and **8**, the cold geometric aesthetic of the central mechanism is to be seen. There is perhaps a lesser inhumanity in the image of mass humanity, **5**, but here again we see the connection between inhuman, or superhuman scale and the statistical, impersonal, vision. A painting by Paul Jenkins, for instance, **12**, has affinities with both interstellar and microscopic photographs. This resemblance reminds us that the image of randomness is also that of humanity seen from afar – it could be called the machine's view of man.

repetition

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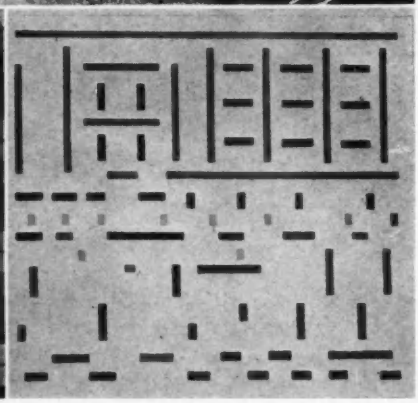
8,9

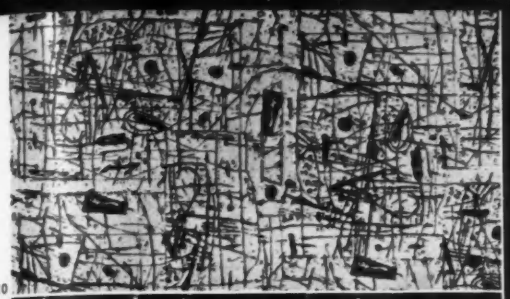


13

biotechnic

13 *Mechanical hand designed by Henry Dreyfuss.*
14 *Carriage return lever, Olivetti 'Lexicon' typewriter.*
15 *Sickle handle designed by Thomas Lamb.*
16 *Binocular made by Rank Precision Industries Ltd (Kershaw Division).*

7 *Automatic transfer line of Austin Motor Co.*
8 *Section of curtain walling on the biology and food technology laboratory, Massachusetts Institute of Technology, U S A. Architects, Anderson and Beckwith. Manufacturers, Henry Hope & Sons Ltd.*
9 *'Composition 1917' by Bart Van der Leck. From 'de Stijl' by H. L. C. Jaffe, published by Alec Tiranti Ltd.*



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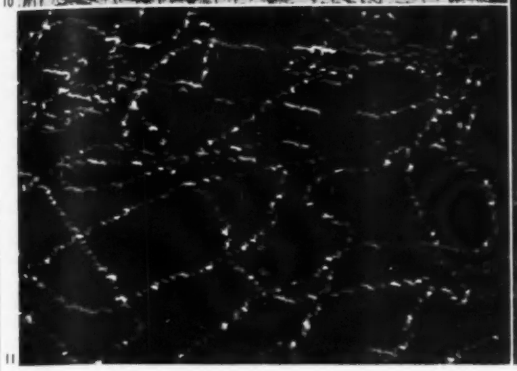

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12

10 *Wallpaper designed by Eduardo Paolozzi and made by Hammer Prints Ltd.*
11 *Carpet designed by Tibor Reich and made by I. & C. Steele & Co Ltd.*
12 *'The Astrologer' by Paul Jenkins. Galerie Rive Droite, Paris.*

random

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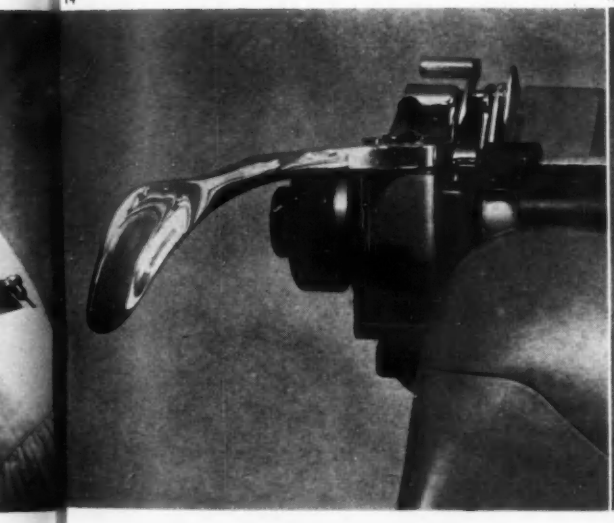

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Design for human use

To sum up: it would appear that the most novel and the most promising aesthetic of automation is the biotechnic one that springs most directly from the human scale and the human anatomy, but while it is obscured by styling and commercial pressure it remains but a hope. The biotechnic aesthetic may not be divined by the artist's pencil or obtained from a storehouse of preconceived aesthetics, but can be more painstakingly uncovered by the imaginative and systematic designing that is based on all the many kinds of behaviour research. It seems that in this direction lies the future of industrial design.

Metal tableware

European trade

DESIGN correspondents:
Germany: Dr Heinrich Konig
Sweden: Eva Ralf
Switzerland: Alfred Altherr
Italy: Letizia Ponti

THIS ARTICLE is the first of six surveys, to be published in alternate months during the course of this year, which will review comparative design standards in the overseas countries of the impending European Free Trade Area. Although much remains to be done before the form of the Free Trade Area is finally settled, recent reports suggest that it may begin to operate early next year. The article on pages 21–23 shows that some British manufacturers are well aware of the intricate problems that must be faced when trade is freed from its present restrictions.

In the domestic consumer goods industries the challenge from Europe will be made largely from the standpoint of design. This view was strongly expressed by Leslie Gamage, chairman of the General Electric Co Ltd and president of the Institute of Export, who said at a recent meeting of the Incorporated Sales Managers Association: "If we devote the time which will be allowed us before the Free Trade Area becomes a reality to nothing else than this question of design, we shall have gone a long way to prepare ourselves for the great adventure". G. H. M. Rosam, joint general manager of Rank-Xerox Ltd, at the same meeting urged British firms to "observe the influence of Italian and French creative design and of German technical novelty on buying preferences. Note the strong American influence on European thinking in consumer durables. Find out what influential buyers are looking for that is still not available."

In this new series of articles our aim is to help fill in

Cast iron oven-to-table ware

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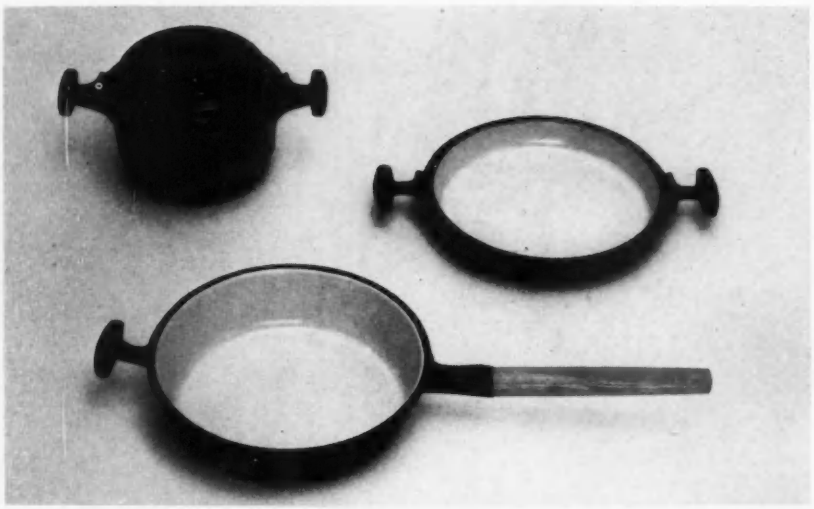

2

3

1 Denmark Casserole and frying pan with a lid that can also be used as a serving dish. The bottoms are machined for use on a hotplate. DESIGNER *Erik Herløw*. MAKER *Ribejernstøberi A/S*. ENGLISH IMPORTER *Finmar Ltd, 17 Kingly Street, W1. Casserole £1 15s; frying pan £1 15s.*

2 Denmark 'Anker Line' casseroles and frying pan. DESIGNER *Jens H. Quistgaard*. MAKER *De Forenede Jernstøberier A/S*. ENGLISH IMPORTER *Danasco Ltd, 15 Golden Square, W1. Casseroles (square) £3 14s 6d, (triangular) £3 3s 6d; frying pan £1 14s.*

3 Sweden Casserole enamelled white inside, dark turquoise outside. DESIGNER *Sigurd Persson*. MAKER *Kockums*.

this picture of European requirements by showing some of the outstanding designs that are available today, and by giving some indication of the type of competition with which British firms will be faced in the future. Cutlery manufacturers particularly feel that competition is going to be intense and that Continental firms have established a considerable lead in the production of stainless steel patterns that will be difficult to follow. The illustrations here show only a small selection of the wide range of stainless steel cutlery and flatware that is available from Europe.

Function and fashion

The Scandinavian countries have produced designs of high quality with a strong sense of fashion which has resulted in a large export demand. In some cases, however, the fashion sense has tended to outweigh the functional requirements to such an extent that the cutlery is definitely uncomfortable to hold.

Germany has entered the stainless steel cutlery field with a galaxy of designs in the medium price range. Designs are functional but lack the spirit of the Danish and Swedish models. Quantity rather than quality seems to be regarded as the most important factor, and this means cheapness – a consideration that will be all-important in competitive market conditions. Much of this development in Continental cutlery and flatware has resulted from the use of high grade steel alloys and improvements in mechanical finishes.

With other types of metal tableware the Scandinavian countries again show an awareness of the export demand for high quality in design and finish. As in cutlery much use is made of stainless steel and in recent years brightly coloured enamelled steel bowls and dishes have come on the market. Cast iron is being revived for casseroles and other cooking utensils and several new designs have been produced which contribute a sturdy simplicity to the more refined elegance of modern Scandinavian silver and steel tableware.

Another traditional material, copper, is being revived in Norway in a range of dishes that gives a richness often lacking in modern table settings. With high quality articles of this type Norwegian firms are making a determined bid to compete with the more firmly established productions of Sweden and Denmark.

Less originality is apparent in the examples from Germany, and frequently advanced pre-war designs remain among the most satisfying available. Italian metal tableware is often at its most interesting in 'one-off', craft made products of an experimental nature that so far have not found their counterparts in quantity production for larger markets.

The next article in this series, to be published in April, will review European trends in furniture. In March a new series of articles outlining the prospects for British exporters to the Commonwealth countries will begin with a survey of Canadian designs.

Silver and silverplate

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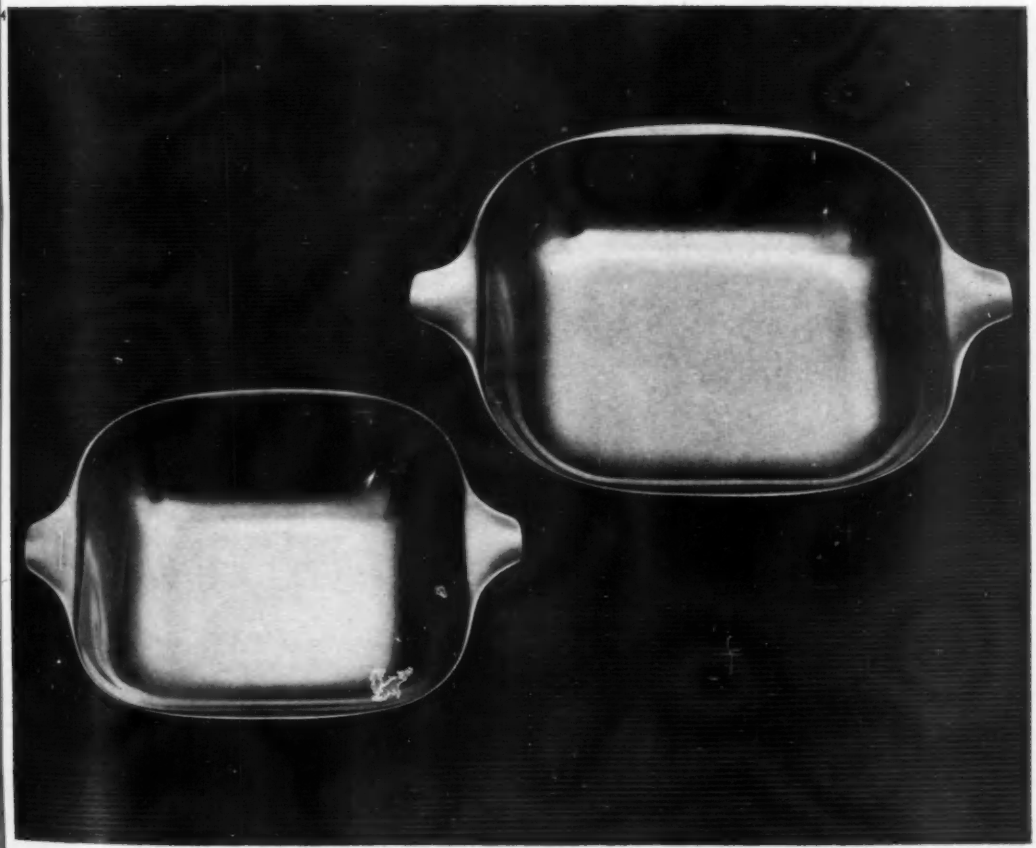

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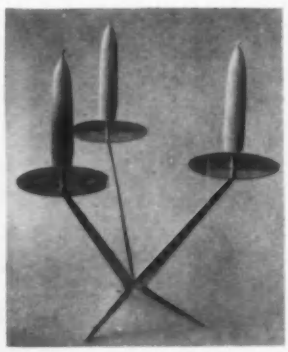

4 Germany Silver plated vegetable dishes. DESIGNER *Günter Kupetz*. MAKER *Württembergische Metallwarenfabrik*.

5 Switzerland Silver candelabra. MAKER *Meinrad Burch-Korrodi*.

British retail prices are quoted where products are available in the U K.

Cutlery and flatware

6 Sweden 'Romb' stainless steel flatware with black nylon handles. DESIGNER *Ainar Axelsson.* MAKER *Guldsmedsaktiebolaget i Stockholm GAB.*

7 Sweden 'Focus' flatware in stainless steel with black nylon handles. DESIGNER *Folke Arström.* MAKER *A. B. Gense.* This design is a particularly elegant example of a new trend for black handled flatware that can be seen in the other two Scandinavian examples shown here, as well as in the other two Scandinavian examples shown here, as well as in the English design by John Sanderson & Son Ltd, for which there has been a considerable demand (DESIGN January 1957 page 14).

8 Denmark Flatware in stainless steel with black handles. DESIGNER *Tias Eckhoff.* MAKER *Andersen & Burchardt A/S.* ENGLISH IMPORTER *Georg Jensen, 15 New Bond Street, W1. £3 11s for six-piece place settings.*

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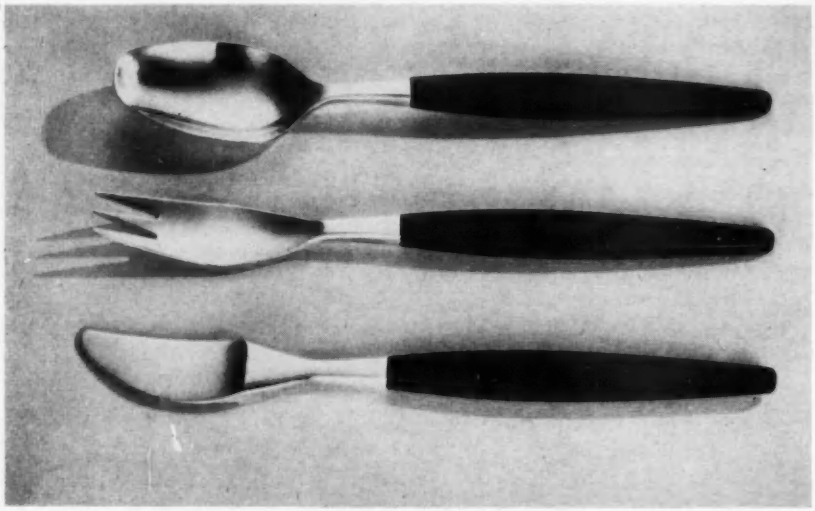

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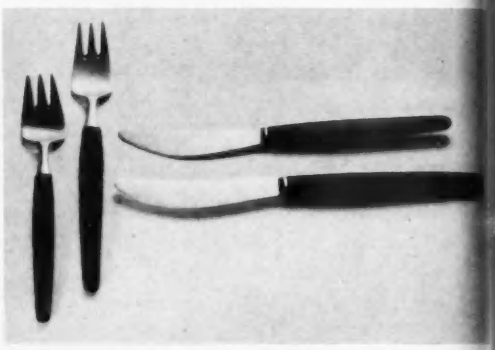

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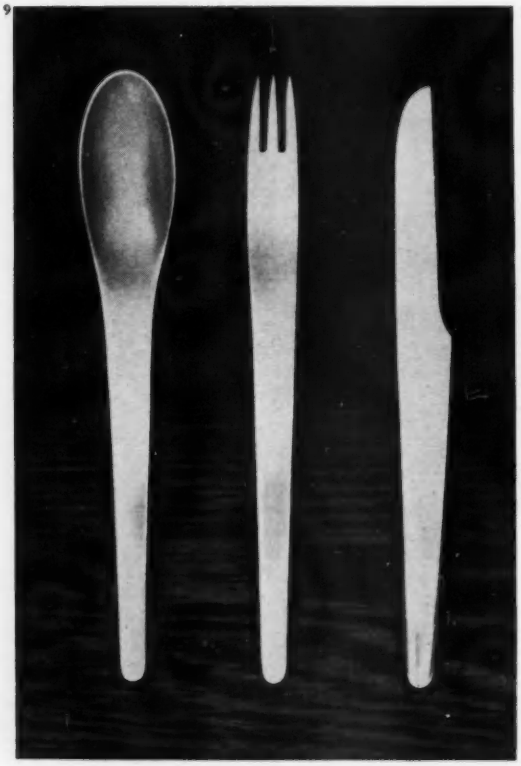

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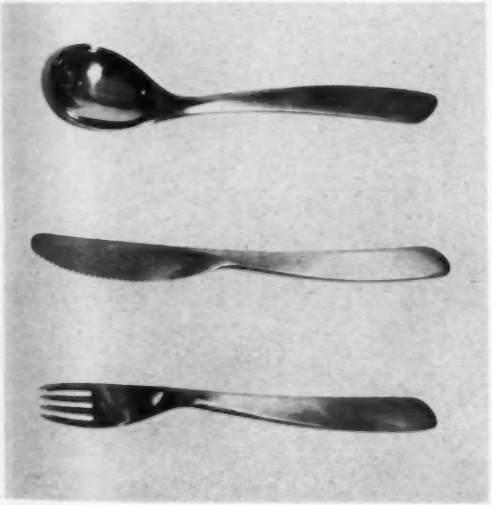
9 Denmark Flatware in stainless steel. DESIGNER *Arne Jacobsen.* MAKER *A. Michelsen.*

10 Germany Flatware in stainless steel. DESIGNER *Carl Pott.* MAKER *C. Hugo Pott.* The simple flat shapes in these two designs suggest a new trend which has grown from the continual search for new forms that is being carried out by Continental firms.



11 **Germany** 'Party' flatware available in silver or silver plate. DESIGNER *Karl Dittert*. MAKER *P. Bruckmann and Söhne*.

12 **Italy** Stainless steel flatware. DESIGNER *Silvio Rota*. MAKER *Co-Ri-Co-Ma*.

13

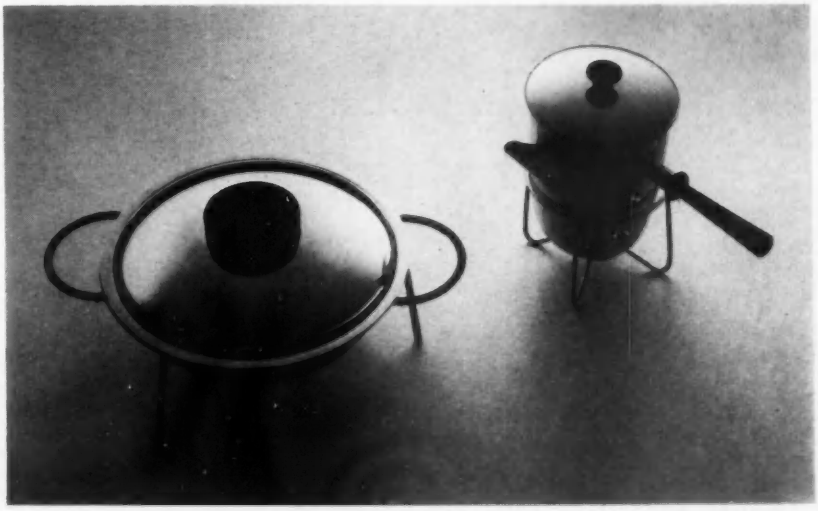
Aluminium and copper

13 **Denmark** Coffee jug in aluminium with a variety of anodised finishes available. DESIGNER *Erik Herløw*. MAKER *Dansk Aluminium Industri A/S*.

14 **Norway** Copper vegetable dish and coffee pot, silver plated inside. DESIGNER *Bjørn Engø*. MAKER *S. Larsen & Sonn*. ENGLISH IMPORTER *Scandinavian Supplies Ltd*, 233 *Dartmouth Road, SE26*. *Coffee pot £7 7s; vegetable dish £9 19s 6d*.

15 **Norway** Dishes in oxidised aluminium. DESIGNER *Bjørn Engø*. MAKER *Emalox*.

14



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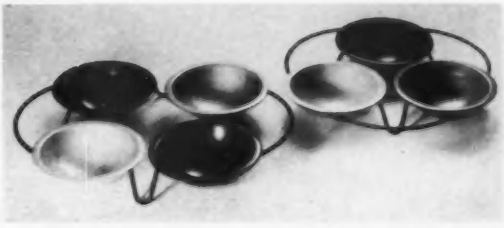

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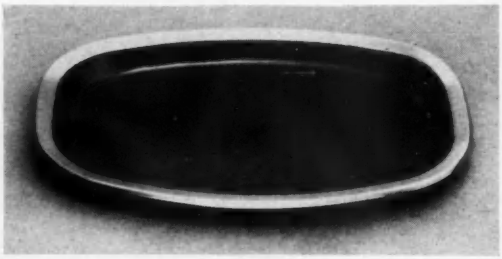

Enamelled steel

16 Sweden Bowls available in a wide range of bright and pale colours. DESIGNER *Arne Erkers*. MAKER *Kockums*.

17 Sweden Dish enamelled dark blue inside. Other colours available. MAKER *A. B. Gense*. ENGLISH IMPORTER *Finmar Ltd. Small dish £2 5s; large £2 17s 6d.*

18 Denmark 'Kobenstyle' casserole and jugs enamelled in a range of bright colours. DESIGNER *Jens H. Quistgaard*. MAKER *Dansk Designs*. ENGLISH IMPORTER *Danasco Ltd. Tall jug £2 2s 6d; flat jug £1 6s 6d; casserole £2 15s 9d.*

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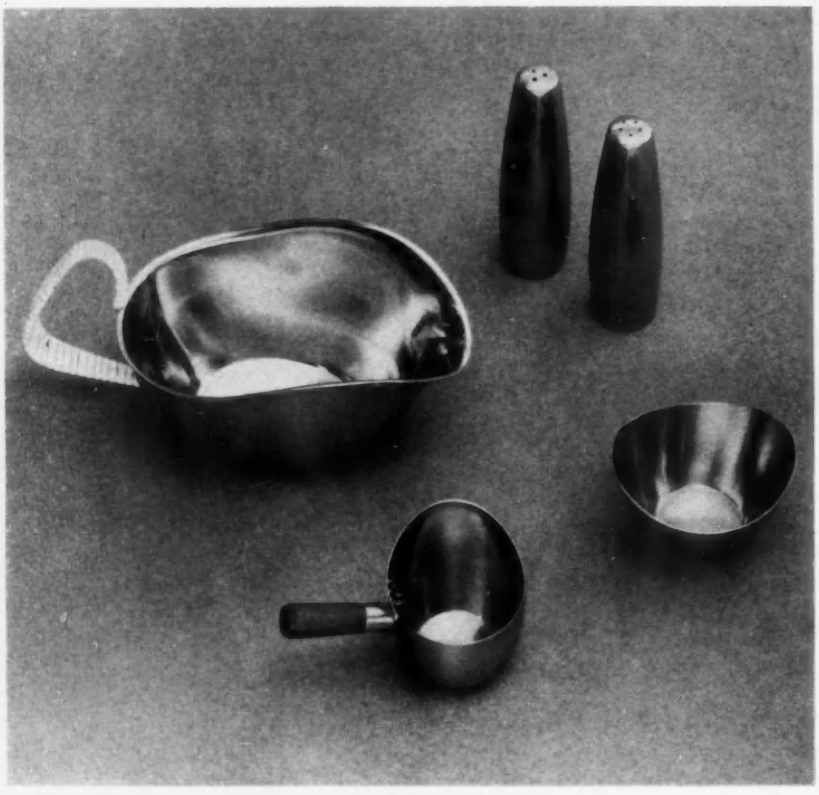

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Stainless steel

19 Denmark Gravy boat with cane handle; cream jug and sugar bowl form a set available in two sizes. MAKER *Hejl & Co A/S. Cruet set*. DESIGNER *Jens H. Quistgaard*. MAKER *Dansk Designs* ENGLISH IMPORTER *Danasco Ltd. Gravy boat £3 16s 6d; cruet £3 12s; cream and sugar set £1 14s 6d.*

20 Sweden Casserole consisting of identical halves which can be used separately as serving dishes. DESIGNER *Sigurd Persson*. MAKER *Silver & Stål*.

Finland: department store

A NEW BRANCH STORE of the Finnish firm of OY Stockmann AB was opened recently at Tampere, and some of the interiors showing the well planned shop fittings and imaginative displays are illustrated on this page. The building was designed by Ole and Bertel Gripenberg and the various departments cover a floor area of about 2,500 square metres. All wiring and ventilation are housed above the ceilings which consist of detachable aluminium sections. The display fittings generally are made of mahogany with contrasting plain panels painted in pale colours. Open displays have been used wherever possible, and attractive patterns have been created by simple repetitions of the goods on show, as can be seen in the shoe and glove departments. The backgrounds for these displays are in most cases a grey-white, while in contrast the intervening wall areas have been given brighter colours. All interior fittings were designed by the Stockmann drawing office under the direction of Werner West and were made at the firm's workshops at Kerava.

▲ These views of the glove and shoe departments show how the goods themselves have been used to form attractive displays.

◀ A general view of one of the floors showing the cantilevered stair treads and the unbroken sweep of the ceiling behind which all trunking is housed.

overseas review

Denmark: Jacob Kjaer, craftsman and designer

ASGER FISCHER

Jacob Kjaer

The author, who is director of Den Permanente in Copenhagen, contributes an appreciation of the work of Jacob Kjaer, the well known Danish cabinet maker, who died last year.

THE DEATH last year of Jacob Kjaer, one of the world's finest craftsmen, is a great loss to the cabinetmaking industry. An honest artist, a unique expert, he was in a class by himself. His furniture is well known and has been exhibited at Den Permanente in Copenhagen, throughout the 25 years of its existence. He was one of the earliest advocates of a permanent exhibition of that type and helped in the reconstruction of Den Permanente in 1945 after the German occupation. This sedate Juttlander placed himself at the head of the fight for high quality craftsmanship and the craftsman's existence. He was a personality whose wishes had to be consulted. He bestowed great care on his work, had a high integrity of character and was the pride of his profession. His furniture was not actually Danish in spirit but became so through the meticulous care and respect evinced in his fine craftsmanship. A cupboard, a chair or a table by his hand will bear witness to the important epoch which Danish cabinetmaking experienced under his leadership. In 100 years his work will be as highly prized as the now classical furniture of André Charles Boulle, Thomas Chippendale, George Hepplewhite and Thomas Sheraton.

Jacob Kjaer was born in 1896. Apprenticed to his father, a master joiner at Viborg, he was awarded a silver medal for his journeyman's test piece in which he revealed decided gifts as a designer. From 1921 to 1923 he studied at the Unterrichts-Anstalt des Staatlichen Kungstgewerbemuseum in Berlin, and from 1924 to 1925 he worked with Linke in Paris. In 1926, at the age of 30, he set up as a cabinetmaker in Copenhagen. He supervised the architects' competitions arranged each year in advance of the furniture exhibitions (the exhibitions held annually in the Museum of Decorative Art and at Charlottenborg under the sponsorship of the Cabinetmakers' Guild). From 1932 Kjaer participated in the arrangement of the exhibitions of the Cabinetmakers' Guild. For a number of years he was on the board of directors of Den Permanente, and

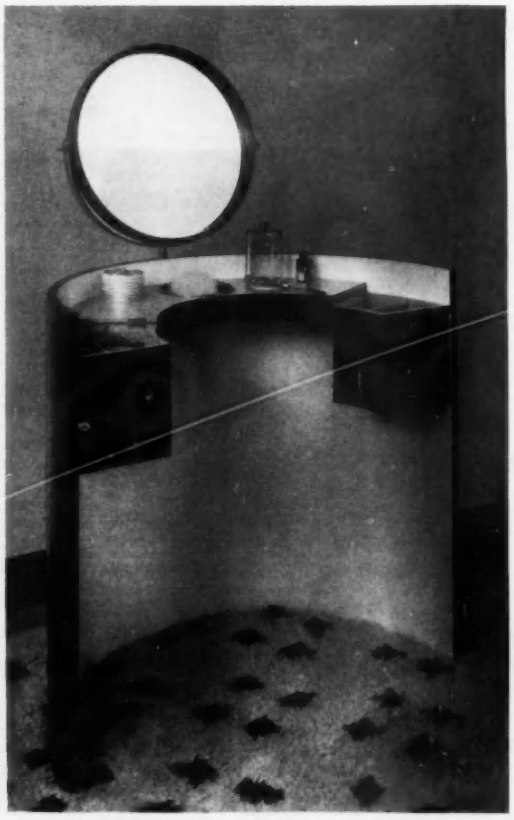
1 1934. Dressing table. This is one of the earliest examples of furniture designed and made by Kjaer.

2 1946. Wing chair covered in black leather. Made by Kjaer to a design by Ejner Larsen.

3 1949. Armchair in mahogany and black leather. Designed and made by Kjaer.

4 1955. Cabinet in teak with curved front and sides and tambour doors. Brass handles and feet. Designed and made by Kjaer.

5 1956. Chair in teak and rattan. Designed and made by Kjaer.



the Danish Society of Arts and Crafts and Industrial Design. Jacob Kjaer, who was Knight of the Order of Dannebrog, was awarded the Artisan's Medal in 1954.

Throughout this activity he had a considerable influence on the development of the type of design that has become characteristic of Danish furniture production in recent years, and which has contributed so much to the high reputation of Danish furniture. His work was represented at the international exhibitions in Barcelona, Brussels, Paris and New York. He has also exhibited in London, Berlin and at the 'Triennale' in Milan, and several examples of his furniture are to be found at the Museum of Decorative Art in Copenhagen, at the National Museum in Stockholm, at the Röhsska Museum in Gothenburg and at the Stedelijke Museum in Amsterdam. He had an extraordinarily fine sense of materials and surface treatments. His association with Professor Kaare Klint and Professor Ole Wanscher, two of Denmark's leading furniture designers, left a profound mark on his development as an independent maker and designer of furniture.

As Jacob Kjaer expressed it: "Furniture should be friendly and grow more beautiful with use. It should be shaped to conform to life and to human needs, but it should also possess intrinsic qualities. Hand made furniture should be solidly built to last for generations and continue to make its presence felt in the tastes and styles of future generations."

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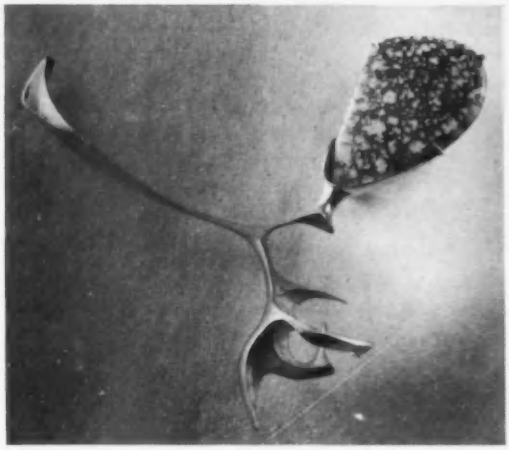

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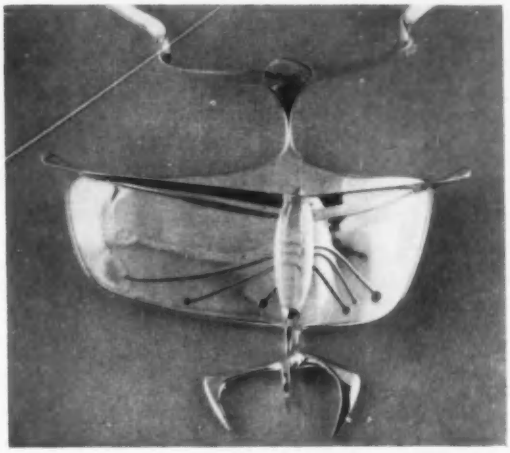


USA: prize winning jewellery

THE EXAMPLES of modern jewellery illustrated here are prize winning designs from an exhibition of 'American Jewellery and Related Objects' held last year at the Museum of Contemporary Crafts, New York. Sponsored by the Hickor Company and originated by the Memorial Art Gallery of the University of Rochester, the exhibition consisted of 200 pieces which were selected by a jury from a nation-wide competition. The exhibition is now being circulated by the Smithsonian Institution's travelling exhibition service to museums and galleries throughout the country. The two pieces shown here reveal a free and imaginative interpretation of natural forms that should provide a refreshing stimulus to our own industry.

1 Pin in gold and turquoise, by Ruth Clark Radarovitch. Hickor award.

2 Pendant in silver with moonstone, by Svetozar Radarovitch. Honourable mention in precious materials section, and purchase award.

■ WE CORDIALLY invite you to Helsingborg, one of Sweden's principal ports, a charming, romantic city with medieval traditions. We also invite you to see the latest and very best of Swedish and Norwegian furniture, textiles and lighting fixtures, all on display at our export fair, SCANDINAVIAN FURNITURE 1958.

Welcome to Scandinavian Furniture 1958!

Antoni & Gehlin AB., Stockholm, Sweden

From May 5 to 11, the ultra-modern Industrial Art Halls, built for the famed 'H 55' exposition, will once again serve as the focus of progressive Scandinavian design.

Between May 8 and 11, the big annual Furniture Fair at nearby Fredricia, Denmark, will present the newest in Danish design. Thanks to this unique, joint international effort, you will be able to see all the latest furniture and textile designs of Norway, Sweden and Denmark at the same time, for the first time. An exposition of famous Swedish glass will also be held in Helsingborg from May 4 to 10.

Since business abroad usually mixes so well with pleasure, we call your attention to a wonderful opportunity of enjoying the exciting spring season of Sweden's Riviera — land of the fabulous castles.

A colourful booklet containing all information on SCANDINAVIAN FURNITURE 1958 and invitations to all the extraordinary events awaits you. Write for your free copy to SCANDINAVIAN FURNITURE 1958, Box 14012, Stockholm 14, Sweden.

'Christopher Wren', a poster designed for London Transport by H. Unger. It is one of the series of full colour prints of famous London Transport posters, which includes the work of Edward Bawden, A.R.A., John Minton, E. McKnight Kauffer, and many others. The average size of the prints is 6" x 5". They can be obtained, price 1s. each (postage 3d.) from the Publicity Officer, London Transport, 55 Broadway, Westminster, S.W.1.

Miscellany

On the beam

The installation of radio beacons on lighthouses and lightvessels greatly extends their range and effectiveness as navigational marks and enables ships and aircraft to fix their positions in the severest visibility conditions. Two new products have been recently developed which utilise the radio beacon to provide reliable navigation for smaller ships and aircraft; they are the 'Homer' radio receiver and the 'Heron' direction finding aerial, designed by R. E. Brookes and R. N. Gatehouse, and manufactured by Brookes and Gatehouse Ltd to meet the specific requirements on board fishing boats, coasters, yachts, etc, and light aircraft.

The 'Homer', **2**, is a small transistorised receiver – overall dimensions are 8 inches × 4⅞ inches × 2⅞ inches – designed to receive broadcasts such as weather forecasts and news bulletins on long and medium wave bands; to provide DF fixes in conjunction with a suitable direction finding aerial, and to lessen the difficulties of airfield approach in bad visibility by 'homing' on a DF or radio range. The effective range of the 'Homer' when used with the 'Heron' direction finding aerial is 50 miles at least (the listed effective range of radio beacons) and with a vertical wire aerial broadcasting stations can be received at distances of 200 miles or more.

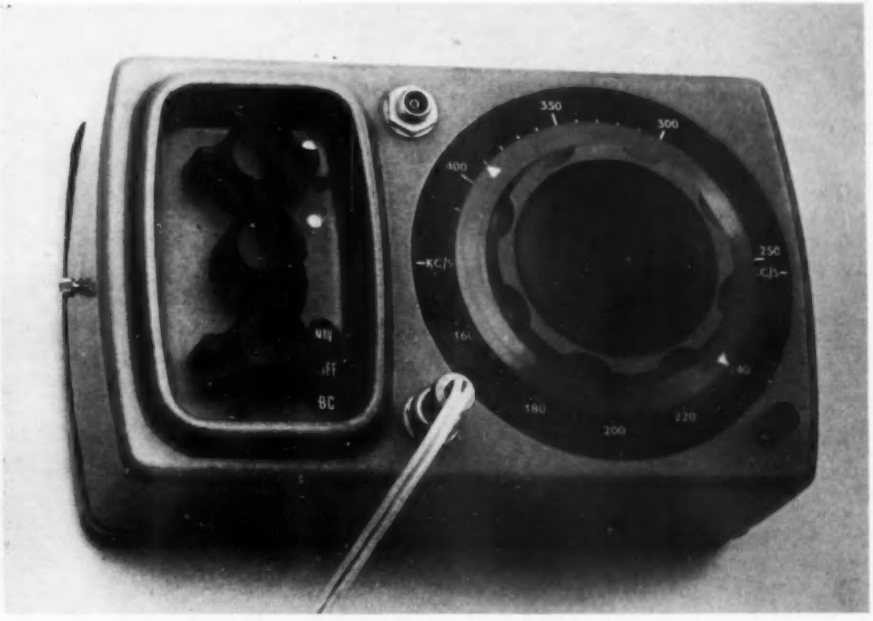
It is contained in a light alloy case, hermetically sealed and coated with a thin durable nylon skin for protection against water. There are only four controls – a tuning dial, frequency band selection, volume, and function switches, the latter three set vertically in a recess on the left of the instrument. In appearance and use the 'Homer' is no more complicated than the average domestic radio receiver.

The 'Heron' direction-finding aerial, **1**, is designed for use in conjunction with the 'Homer' receiver. It is sufficiently small and light to be mounted on an ordinary hand-bearing compass. The reduction in size and weight is achieved by replacing the conventional 'loop' by a ferrite rod which runs horizontally through the body. Like the 'Homer', the 'Heron' is made water-resistant and all components likely to be affected by moisture are embedded in epoxy resin or polystyrene. All non-metallic parts are in thermo-setting plastics and the metallic parts in electroplated brass.

For operation the 'Heron' is attached to a hand-bearing compass and connected to a receiver which is tuned to the frequency of a selected beacon, identified by its characteristic letters in morse. The combined aerial and compass is then swung round to a point where the signal disappears and the reading in the compass prism is plotted in the normal way. A fix is obtained by taking two or three such bearings from different radio beacons within range.

1

2



Voice projection

An electronic megaphone, with built-in amplification, called the 'Transhailer', **3** and **4**, has recently been introduced by Pye Telecommunications Ltd. It has applications in commercial, industrial, and sporting activities where the voice has to be projected across distances or against considerable background noise.

The instrument is equipped with transistors instead of valves, and typical of transistorised equipment it is light and, the firm claims, economical in power consumption, being powered by ordinary small torch batteries with a total capacity of 12 volts which have a life equivalent to 20,000 ten-second messages, or six months' normal use. The 'Transhailer' has an effective range of 400 yards or more and its quality of speech is claimed to be exceptionally high.

3

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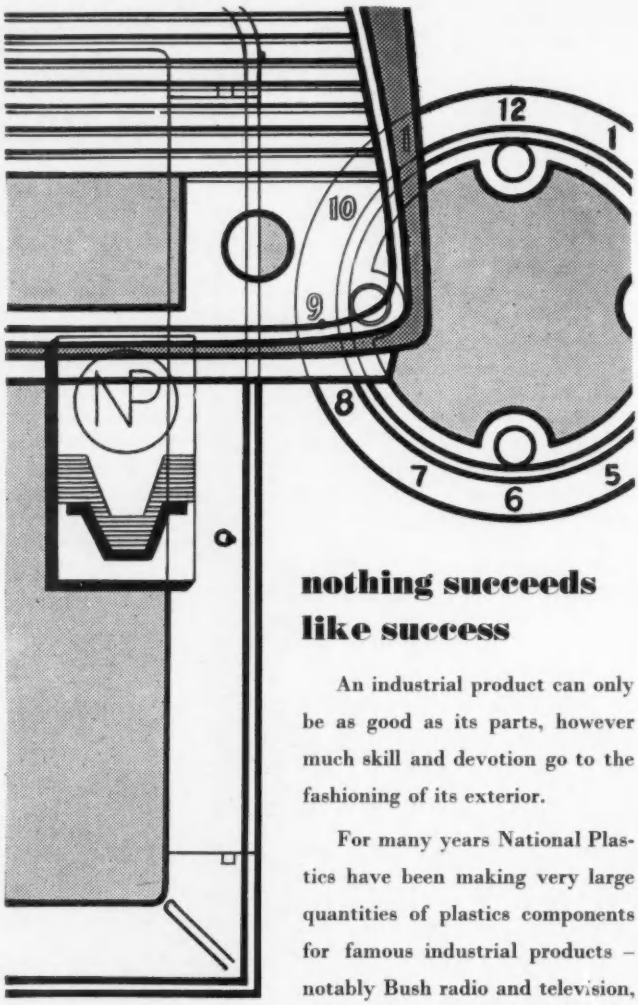

nothing succeeds like success

An industrial product can only be as good as its parts, however much skill and devotion go to the fashioning of its exterior.

For many years National Plastics have been making very large quantities of plastics components for famous industrial products – notably Bush radio and television, Ford cars, Remington typewriters, Vactric washers – to name but a few.

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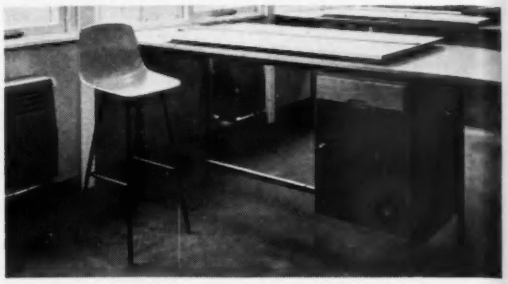

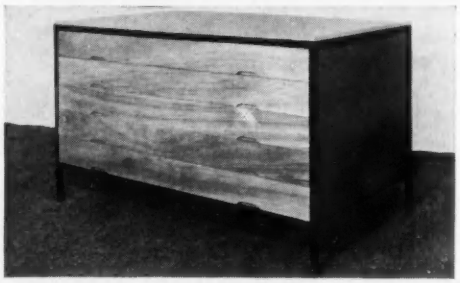

Illustrated above antiquarian
plans chest and layout table
(as supplied to British Railways, Eastern Region)
other sizes are available

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MISCELLANY

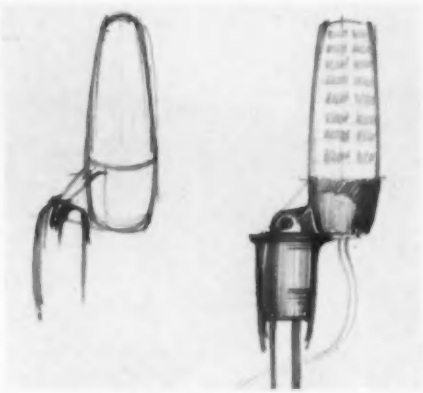
Ribbon microphone

Housing the delicate mechanism of a microphone is not merely a question of shrouding the interior with a robust perforated case. The design of the casing is very much a part of the resultant performance as it can materially alter the acoustics of the assembly. Basically, in a ribbon microphone the movement of a metallic ribbon within a magnetic field induces electric currents along its length which are related to the pressure of the sound waves impinging upon it. These small currents are amplified by a transformer immediately adjacent, so that the housing contains a permanent magnet, the ribbon assembly, transformer and connecting leads. Stanley Kelly, a well known acoustics engineer, conceived a new idea in ribbon microphones which, put into its simplest form, enabled the ribbon to be supported in the centre instead of at each end, thereby doubling the motion, and its resultant electrical output.

Simon Sound Service Ltd set up a team consisting of the acoustics engineer, a technical director of the manufacturers, Eric Thomson, and its consultant designer, Peter Bell, to develop the unit incorporating the new suspension system for production. Many sketches of outward form, **5**, were followed by solid wooden models, and then hand made hollow models which could be gradually modified to suit the acoustics and the small details of assembly – all these stages were followed through to production by Mr Bell. The wind shield guard was modified in order to simplify tooling after the final design, **6**, had been accepted by the manufacturer. Mr Bell also designed the simple but effective table stand, but the microphone can also be used on a floor stand.

The final result, **7**, is a compact, neat unit in the lower to middle price range (10 guineas). It is unusual for the finer points of appearance to be considered at such an early stage in the development of equipment in this price range.

5



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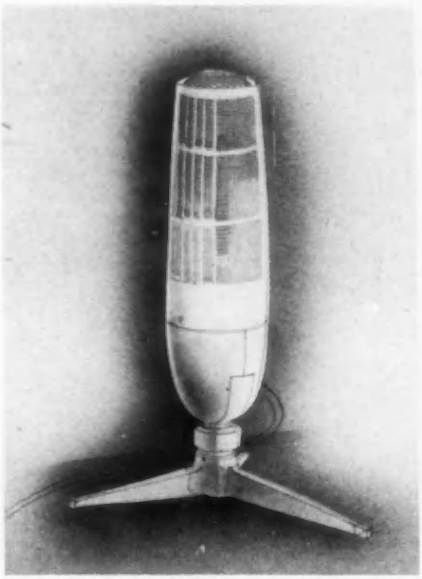

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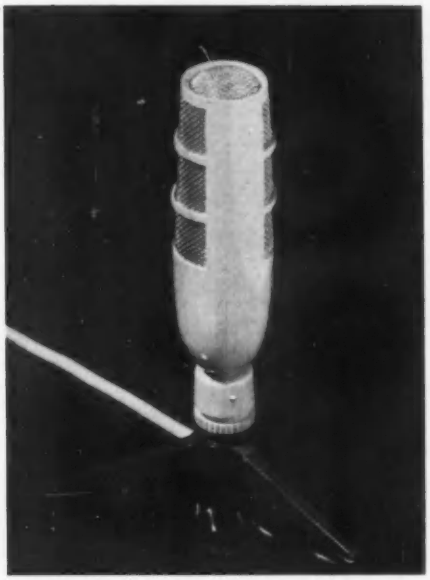

Compact concrete mixer

The cantilevered drum of this small 'Winget 2-T' concrete mixer, **8** and **9**, manufactured by Winget Ltd, is made possible by an ingenious combination of transmission and tilting mechanisms. By this means the motor is kept well away from the operative end and a very simple frame with only two wheels can be used.

The mixer can be manoeuvred by one man in similar way to a wheelbarrow, and its compact size enables it to be used in confined spaces.

Its overall dimensions are 4 feet 2½ inches high, 2 feet 5½ inches wide and 4 feet 2 inches long, and it weighs 3 cwt 14 lb.

8

9

FRANCE

M. Jean Royère is an industrial designer of international repute. He expresses below his convictions about colour and forecasts the impact this new thinking will have on our everyday lives.

the language of colour

". . . . Without colour, modern decoration would be dull and monotonous. The disappearance of mouldings, cornices and other architectural ornaments has been compensated by the added importance given to colour effects used to cover large surfaces. Colour has thrown off its inferiority complex and the pale tints of past centuries. Boldness and strength are no longer feared and contrasts rather than nuances achieve new gaiety and youthfulness. All sorts of new materials, including plastics, give countless opportunities for experiments in new effects—it is the start of a new era, one of blue chests of drawers, green sideboards and red writing desks."

Jean Royère

colour matching

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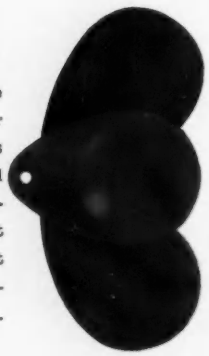

The accent to-day, not only in France but throughout the world, is on colour—the language of vision, the oldest language of all, yet only now in course of rediscovery. This tremendously vital trend imposes special responsibilities on materials manufacturers, but it is a responsibility by no means new to B.I.P. Chemicals Ltd. We are always able to offer the widest selection of colours—many hundreds of them—in the Beetle, Scarab and Melmex grades of moulding powder, whilst our Colour Matching sets the seal on this increasingly important aspect of service.

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NEWS

PEOPLE

Medal for designing

The SIA medal for 1957 has been awarded to Robin Day for his contributions to different spheres of industrial design.

In 1949, Mr Day was co-winner with Clive Latimer, of the first prize for a design of storage furniture in the Museum of Modern Art, New York, 'Low-Cost Furniture Design Competition'. Last year he had two designs, a bed settee for S. Hille & Co Ltd, and a television cabinet for Pye Telecommunications Ltd, among the 'Twelve Designs of the Year'.

Robin Day

Mr Day's work is well known abroad and his designs are being manufactured under licence in Europe and the USA.

Gordon Churchill

Canadian leader on British designs

Gordon Churchill, leader of the Canadian Trade Mission to Britain, is seen here during the mission's visit to The Design Centre last December. Mr Churchill felt that on this, the most recent of his visits to the UK, many British designs showed that they could force the pace of competition on the Canadian market. An article on design in Canada will appear next month.

Lighting designer

Kenneth Haylor has been appointed as a consultant designer for lighting fittings for Hailwood and Ackroyd Ltd. In 1956 Mr Haylor founded Lighting Developments, a design consultancy for the manufacture of lighting fittings.

Consultant designer

Galatzine & Partners Ltd has announced the appointment of Edward Burrett as consultant designer. He has also joined the board of the firm's associate company PRO Service Ltd. Mr Burrett is already consultant designer for the Peninsular and Orient Steam Navigation Co, Mitchell Engineering Ltd, and Hunt & Winterbottom Ltd. Mr Burrett, who was originally a compositor's apprentice, worked for a time with Albert Skira on the publication of fine art books. He was responsible for the design of the official souvenir programme for the Festival of Britain.

Lecturer to MIT

George A. Adams, lecturer in the design department at the London School of Printing, joined the staff of the Massachusetts Institute of Technology in January for three months. Mr Adams, who studied at the Bauhaus and is a consulting designer for Thames and Hudson Ltd, will assist in the design of various MIT publications and will study American design and printing methods and graphic design teaching.

Designer's honour

Abram Games has been appointed an OBE in the New Year Honours List for services to graphic design. Although Mr Games is best known for his work as a poster designer – his two-hundredth published poster appeared recently – he has in fact been designing in various fields over the past 25 years.

Recently he achieved the remarkable success of being awarded first, second, third and fourth prizes in a poster competition held at the time of the 'British Trade Fair' in Helsinki. The winning posters were for Guinness, Orient Line, BOAC and The Design Centre, in that order.

Abram Games

From 1946–53 Mr Games was a lecturer in graphic design at the Royal College of Art, and he has exhibited extensively at home and overseas, including a number of one-man shows by invitation in Stockholm, Jerusalem, Tel Aviv, London, Brussels, São Paulo and Rio de Janiero. His work was included in an exhibition of four European poster designers at the Museum of Modern Art, New York, in company with Savignac, Max Bill, and Ottl Aicher.

Lion and unicorn 1958

Sir Hugh Casson, speaking of the contribution of the Royal College of Art at the 'Brussels International Exhibition', said that the "designers would have to tread carefully to avoid the twin dangers of pomposity and whimsicality". The guiding theme of the college's display could well be called the British people with their feet up, and it is intended that this section should provide a contrast and relief after the dramatic settings of the previous sections.

The designs are being co-ordinated by a team, under the chairmanship of Sir Hugh, comprising Richard Guyatt, Robert Goodden, Margaret Casson, Leonard Rosoman, and John Brinkley. Also taking part are Osbert Lancaster, Edward Ardizzone, David Gentleman, Kenneth Rowntree, Walter Hoyle, John Griffiths, Ronald Searle, Arnold Machin, Edward Bawden, Edwin Ladell and a number of associates and students of the college.

Exhibition designer

James Gardner

James Gardner, who since his design for the 'Britain Can Make It' exhibition in 1946 has been known as one of our leading exhibition designers, has also been concerned with practically every aspect of industrial design at one time or another.

His first exhibition was 'How They Fly' for Shell-Mex immediately before the war. During the war he was chief development officer, army camouflage. He was co-ordinating display designer for the South Bank Exhibition and chief designer of the Festival Gardens, Battersea, in the Festival of Britain.

At the 'Brussels International Exhibition', as well as being chief display designer for the government pavilion, Mr Gardner is also responsible for the theme of the displays themselves.

INDUSTRY

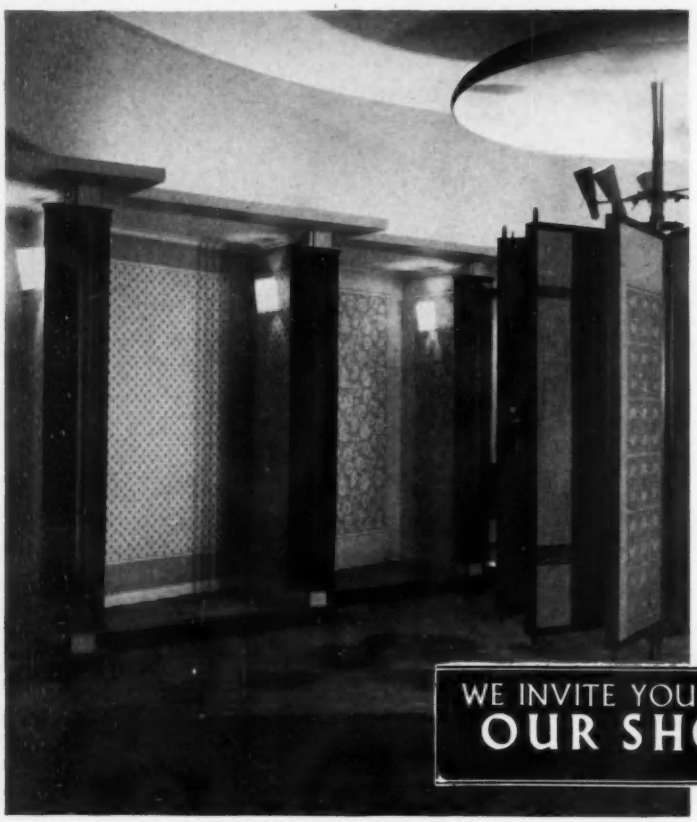
New company in plastics

Thomas De La Rue & Co Ltd, has announced the formation of Formica Ltd. The new company will take over the manufacture and sale of all products formerly handled by the plastics division of Thomas De La Rue & Co Ltd. An arrangement has been made between the American Cyanamide Co and Thomas De La Rue & Co Ltd for an interchange of technical information in the field of plastics laminates over the next 25 years.

Finish for furnishings

A new finish for furnishing fabrics in cotton, linen and viscose rayon has been announced by Calico Printers' Association Ltd. The firm's research department has

continued on page 63



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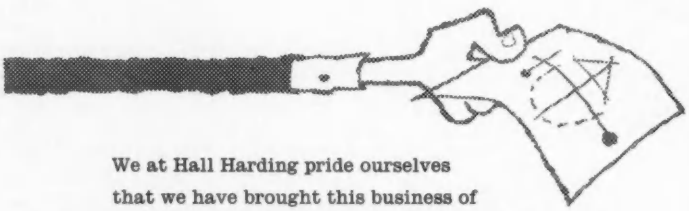

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NEWS

developed the new finish which will be known as 'Calpreta-Fixt'. The effect will be to enable curtains and loose covers to be sold with a guarantee that they will neither shrink nor stretch. Fully shrunk finishes are, of course, by no means new to the textile industry, but a claim for dimensional stability so positively expressed would seem to indicate a distinct advance.

The new finish is said to be economical to apply so that the added cost will not rule out its use on cheaper fabrics. It is claimed that it will stand up to laundering and dry cleaning. The finished fabric will dry quicker after washing and will require the minimum of ironing.

The first firm to apply 'Calpreta-Fixt' extensively is F. W. Grafton & Co Ltd, a subsidiary company of CPA. A large new range of 'Grafton' furnishing fabrics has been issued to mark the introduction of the new finish. D. JOHNSTON

Clock watching

Smiths Clocks and Watches Ltd, and an associate company, English Clock Systems, have combined to give a service to both architect and designer. If suitable clocks are not available to meet particular requirements in standard ranges, the architects' service department of English Clock Systems will produce special designs from six-inch wall clocks to tower clocks.

Sense of proportion

British Olivetti Ltd has recently introduced the 'Graphika' which it claims is the first standard typewriter to have proportional spacing. The keyboard of the 'Graphika' is divided into four groups of letters, numbers, etc, which when depressed move the carriage varying numbers of basic spaces – two for the first group, three for the second, and so on. For capitals the spacing is automatically increased.

EXHIBITIONS

New York show

A stand of 6,600 sq ft for the Board of Trade will be the main British contribution to the 'Second US World Trade Fair' to be held in New York from May 7–17. Exhibits will include textiles, jewellery, pottery, glassware, leather goods, clocks and watches, cutlery, cycles and motorcycles, cameras, toys, radios, and office equipment.

All light up

The new showroom of Troughton & Young (Lighting) Ltd, the opening of which coincided with the firm's fiftieth anniversary, has been redesigned by Hulme Chadwick to overcome some of the problems associated with displaying lighting fittings. The ceiling of the showroom consists of sloping, horizontal and vertical panels so that pendant fittings can be seen against a plain background from one end of the room, and ceiling fittings on the sloping panels from the other end, and not against a forest of pendants as in some showrooms.

All the fittings are separately switched so that a single fitting can be seen on its own. Also on display are wall brackets and standard lamps shown against various materials, and fluorescent lamps.

Mr Chadwick was assisted in the design by Alexander Bayes; David Esdaile & Co Ltd was the contractor.

Home from home

In his fourth article in the 'Automation and Design' series, J. Christopher Jones discussed the changing concepts in office design. He suggested that the office was becoming more domestic in appearance and no longer dominated by the executive desk. The example chosen to make this point was American, but it is interesting to find a similar tendency in this country. The illustration above shows the director's office of Cyril Sweett and Partners designed by Patrick Gwynne. The table is Mr Gwynne's own design and the two smaller chairs are designed by Arne Jacobsen. The glass fibre chair behind the table is designed by Nigel Walters and manufactured by Andrew A. Peagram Ltd.

Carpets on display

The London showroom for The Carpet Manufacturing Co has recently been opened. The firm took over warehouse premises on six floors and these have been entirely redecorated by the London sales manager, Eric Paton, who is also chairman of the Design and Industries Association. The sales areas provide light grey and white tone backgrounds to the varied colours in the firm's ranges of carpets.

Devon crafts

In an ideal if rather secluded setting in Torre Abbey, Torquay, The Guild of Devon Craftsmen exhibited some 250 items from 27 different craftsmen. A notable feature was the high standard of display, so seldom achieved by such a small group – in this case of less than 60 members. The orthodox skilled crafts of the county were represented by exhibits of pottery, sculpture, wood-carving handwoven fabrics and fabric printing, furniture, book-binding, needlework, metalwork, toys and the graphic arts. Courageously included in these traditional surroundings were fine photographs of local interest, and a modern version of an old Devon craft in the form of dinghy-building. The technical standard naturally varied but generally the work was commendable and ambitious. PETER WHITWORTH

MISCELLANEOUS

The designer's position

The SIA has published a report dealing with 'Conditions of Employment of Salaried Designers'. During 1956 a committee of the SIA examined the conditions under which employed designers work, and its recommendations contained in the report are intended as a guide to both designers and employers. The report covers commercial designers only, but it is hoped shortly to provide a similar report dealing with industrial designers.

New United States Designs Bill

In a previous issue (DESIGN September 1957 page 55) a reference was made to the new US Designs Bill recently introduced into the House of Representatives

continued on page 65

Hegerty and Merry

SOLID COMFORT
A display of solid fuel appliances for the home
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The Council of Industrial Design
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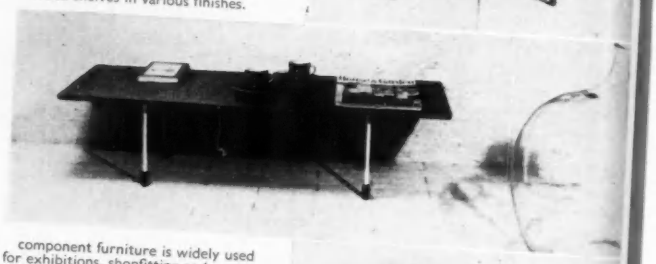
component furniture

is much more than just steel legs and plywood table tops—there are eight types of leg in length from 9 to 28 inches and in fourteen colours. The table tops are in seven standard sizes and eight finishes. The range includes storage units and steel ladder shelving with hardwood shelves in various finishes.



component furniture is widely used for exhibitions, shopfitting and display work generally, where the size and colour ranges are of particular value. It is available only direct from the manufacturers, J. Scott Smith Limited. If you would like the complete range of catalogues please write to them at

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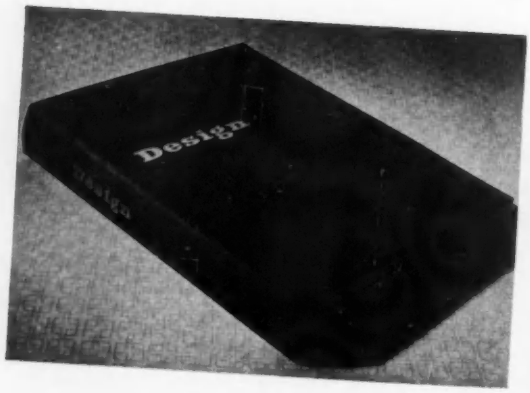
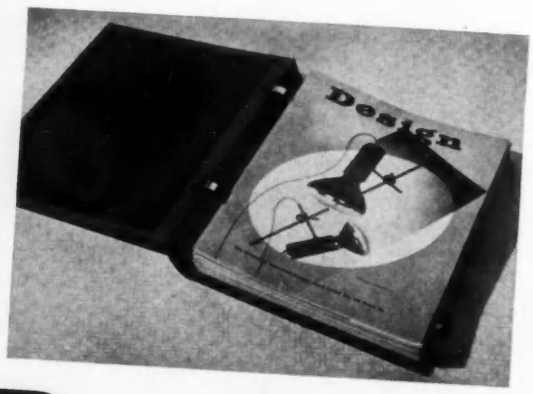
top: 40 inch diameter ebonised dining table on white braced legs price—£6 5s delivered
centre: 40 × 15 polished mahogany table on 9 inch vertical legs price—49 shillings delivered
below: 48 × 17 beech edged table surfaced with Tibor Texturide on 12 inch splayed legs—£5 3s.





BINDERS FOR Design

are now available to take the new enlarged size of magazine, and are attractively bound in green linen, DESIGN gold blocked on front and spine and lined with black inside the covers

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BINDERS FOR DESIGN cost 13s each, or 14s 6d post free in the UK from the Business Manager, DESIGN, 28 Haymarket, London SW1.

and now before the Committee on the Judiciary.

The Bill in its present form contains evidence of orthodox thinking along progressive lines. Parts of it are reminiscent of the existing US Patent and Copyright laws: for example the requirement for a statement under oath to accompany each application and some typically elaborate "design notice" provisions. The basic idea of the Bill, however, and many of its details clearly stem from an analytical study of the designs laws of other countries.

An excellent feature is that the test of infringement is to be whether the protected design has been "copied" or "imitated", which is often all that really matters. Other interesting provisions are that a single registration is to be sufficient to protect a design utilised in substantially identical form in a number of different articles and that no rights are to be lost by deferring application for registration until six months after the date when the design is first "made known" anywhere by the proprietor, provided that the design notice provisions are complied with.

It is to be hoped that Congress will find time to consider and pass this Bill during the current year and that, if so, its provisions will not be unduly emasculated by the inevitable amendments.

NOW

Mac Fish -
Fresh Fish

AT

SAINSBURY'S

LEWISHAM

SELF-SERVICE

When two house styles meet

'Mac Fisheries' is best known as the name of a chain of retail shops, but now 'Mac Fish' is being sold by certain other retailers also, including J. Sainsbury Ltd. Both companies have well established house styles: the local newspaper advertisement designed by Leonard Beaumont, and illustrated here, shows the meeting of Mac Fisheries' hand-lettered script with Sainsbury's favourite type face, Albertus (see 'House Style', a special issue, DESIGN *November* 1956*). There might conceivably be a clash between two house styles, but these two meet on friendly terms. The advertising agents for both companies are Mather & Crowther Ltd; the Mac Fisheries' script is by Hans Schleger.* ALEC DAVIS

New aircraft interiors

A new interior design scheme for BOAC's fleet of passenger airliners, previously announced in DESIGN has now been officially approved. The scheme has been prepared in great detail by Gaby Schreiber and Associates, a firm of designers in London chosen by BOAC from a list of names recommended by the CoID's Record of Designers. The first full-sized mock up has already been prepared for the 'Comet 4' and the first complete installation will be carried out in a long range 'Britannia' within the next few months. Work on the entire fleet is scheduled for completion in the autumn. Later the schemes will be incorporated in the American 'Boeing 707s' which are on order for BOAC. Interiors for this aircraft, designed for the manufacturer by Walter Dorwin Teague Associates, were illustrated in DESIGN for May 1957 pages 47–50. The new BOAC interiors will be illustrated and discussed in DESIGN later this year.

A new world

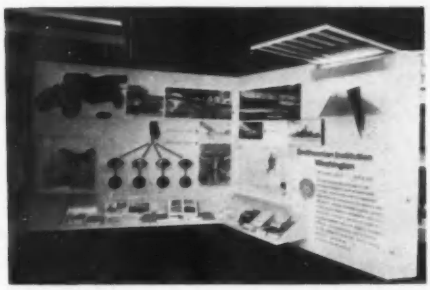
This library atlas stand designed by Ralph Saltiel for George Phillips & Son Ltd is one way of improving the world. The stand, which is in teak and brass, is intended primarily for executive offices and libraries, and represents the first example of this firm's products since Mr Saltiel was commissioned to redesign them.

New service

H. Hacker Ltd, letterpress colour printers, have recently formed an associate company called H. Hacker Design Group Ltd. The design group offers a service on all methods of reproduction, and a specialised typographic service to exhibitions designers. Walter Truman-Cox, who is the firm's typographic consultant, has been appointed art director of the new group, and Richard Daynes is senior designer.

Badge of office

At its twenty-fifth anniversary dinner the president of The Purchasing Officers' Association wore a new badge of office. The badge, in gold with a centre of red enamel on which is mounted a floral group representing the national emblems of the four countries of the United Kingdom, was designed for the association by Eric Clements and made by Padgett & Braham Ltd.



Mobile museums

A demountable exhibition devoted to science and technical museums from 12 different countries (Britain was represented by the Science Museum, London), was recently held at the National Technical Museum at Prague. The illustration shows the exhibit of one of the museums concerned – the Smithsonian Institution Washington, USA. Each museum had one or two panels at its disposal, and each stand was decorated by the national flag as seen above. The exhibition, which is mobile and will travel to other European towns, was designed by Jiří Rathousky.

LETTERS *to the Editor*

Short circuited

SIR: We have read with great interest the article 'Switches, Plugs and Sockets' by Peter E. M. Sharp (DESIGN November 1957 pages 47–61). However, there are several points which give us cause to doubt the wisdom of some of Mr Sharp's statements.

In item three on page 57, it is stated that fuses should be replaceable without taking the plug apart. We disagree with this mainly on the score that, in practice, one finds that over a period of time the terminal screws, through constant use of the plug, tend to become loose if not tightened very securely. When a fuse blows there is usually a reason for it and it may be that the wire inside the plug has somehow become undone and shorted across. Should this be the case and a new fuse is inserted without the fault being cleared, the fuse will blow again and another sixpence or more will have been spent by the consumer who, even now is very hesitant to use the correct fuse. We still find that hairpins, bits of wire and other things are used when a replacement fuse is not immediately available. Therefore, we feel that if a fuse is to be replaced, it is better that the plug top be taken off and the inside wire inspected.

On page 59 Mr Sharp suggests that rubber is more difficult to mould than plastics. We cannot accept this statement as our company has developed a special rubber compound which can be easily moulded on a conventional moulding press.

D. REVINGTON
Managing Director, Nettle Accessories Ltd
Harper Road
Manchester 22

SIR: I should like to express interest in Peter Sharp's article on 'Switches, Plugs and Sockets'. The abundance of illustrations and the accompanying critical appraisal of each consumer's unit, switch or socket

continued on page 67

THIS TIMELESSLY ELEGANT ARMCHAIR, designed and built by Ian Henderson Ltd. – the craftsmen with an unerring instinct for all that is best in contemporary furniture – has been constantly in demand by the discriminating since it was launched five years ago.

The superb comfort of the two seat depths is emphasised by foam rubber, which also is used to add softness to the back and arms. There are over 400 designs in covering material to choose from, and if desired, 2, 3 and 4 seater settees are also available.

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LETTERS

should be of particular value to designers and manufacturers, as well as to householders who are seeking to make their homes really up-to-date.

His suggestions that the public should know more about fuse values and should demand more sockets are of special interest to the Electrical Association for Women, as we are already making a contribution within our own field towards solving this problem. We arrange courses of simple instruction not only for our own branch members throughout the country but for the public and for boys and girls in different types of schools. The course covers generation, transmission and distribution of electricity, and the circuit in the home, together with the use and care of the main domestic equipment and accessories.

Each winter the EAW organises at its London headquarters special short courses on fuse replacement and plug wiring. Those attending have the opportunity of handling several types of switches and plugs and can therefore judge for themselves the value of simple efficient design. They can also discuss aspects of domestic equipment with the members of our housecraft department, and see examples of up-to-date equipment and accessories in the display room.

MARY GEORGE
Director, Electrical Association for Women
25 Foubert Place, W1

SIR: Your article, 'Switches, Plugs and Sockets', shows the great strides which have been made in the appearance of these accessories in the last few years.

I think, however, that it is questionable whether the change of shape of single switches from round to rectangular is an improvement. In the case of single ring-fixed switch plates, I go further and would say that I think the circular ones are much more practical than square ones, which invariably twiddle round, mark the wall and look most untidy. (I note that one new model has cork corners, to try and overcome this snag.)

I am quite sure that any manufacturer who markets flat, plastics, circular switch plates, in a good range of colours, will have a certain winner. Even octagonal would be an improvement on square plates.

In my opinion even screw-fixed plates would be better if made circular, because the average electrician seems to be quite incapable of fixing them straight on walls.

EDWARD H. PINTO
Compactom Ltd
Oxgate Lane, NW2

Design and business

SIR: Much as I endorse many of the comments made by R. Furneaux Jordan in his article on the De La Rue showroom 'The Art of Showing Off' (DESIGN October 1957 pages 35–9), I think the *tone* of his remarks unfortunate. The words "game", "racket", "amoral", "bogus" are strong epithets to apply to the retailer's attempts to present his wares in a modern manner.

Admittedly there is much which is bad in the new shops and showrooms. The truly modern shop is perhaps more rare than otherwise. But the badness springs more often from ignorance than from dishonesty. The trader is rare who now subscribes to the discredited theory that his fortune lies in fooling us.

The CoID is well aware of the danger of the apparently patronising comment. Above all it wishes to avoid the all-too-readily accepted suggestion that the design world is in any way superior to the 'base' business of buying and selling.

Merchants should be *encouraged* in their attempts to operate within the terms of modern design. It will help neither them nor the cause of design to be told that their efforts are no more than a cynical exploitation of fashion.

ALLAN PLOWMAN
Editor, 'Display'
16 West Central Street, WC1

All at sea

In DESIGN *for December 1957 page 67 there was an illustration of a proposed lounge scheme for the de Havilland 'Comet'. All that could be said in its favour was that it was only a proposal. The photograph above shows one of the first class cabins in the Cunard Line's RMS 'Sylvania' which is all too clearly not a proposal but a fact. The cabin is furnished in a combination of 'contemporary' and 'modernistic' shapes and patterns which gives it the air of a luxury bed|sitter. If a shipping line really wants to conceal from its passengers the fact that they are at sea, then it could surely do it with a little more sensitivity and selection than this.*

BOOKS

Isambard Kingdom Brunel
L. T. C. Rolt, Longmans Green & Co £1 5s
This book is a fascinating account based on diaries, private letters and official documents of the life, the struggles and achievements of perhaps the greatest engineer that ever lived.

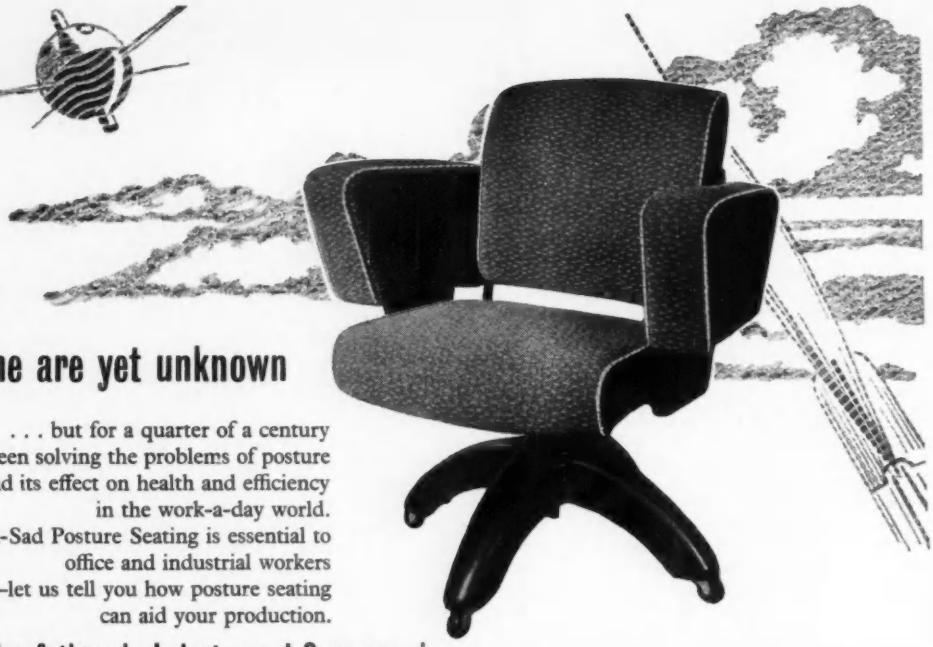
It is the account of a strong and magnetic personality fighting nature and human stupidity in the unique setting of the industrial revolution, with promoters and engineers and inventors – almost the same

I. K. Brunel

thing in those days – falling over each other to apply the new gospel of mechanisation to transport and industry.

Brunel fought all the time and went down fighting in the final tragedy of the 'Great Eastern', the largest ship then afloat. His achievements and failures make an astonishing list: 24 years old and in charge of his father's Thames Tunnel project, where disaster overtook him and work had to be abandoned for a time; his work for the Great Western Railway and other railways – at the age of 29 he had £5 million worth of work in hand on railways, bridges and docks; his heroic fight for the broad gauge, which he unfortunately lost in the end, but where he was absolutely right; the astonishing episode of the atmospheric railway where his normally sound judgment seems to have failed; such outstanding

continued on page 69



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BRANCHES THROUGHOUT ENGLAND AND WALES

BOOKS

structures as the Clifton Suspension Bridge; the Royal Albert Bridge, Saltash; and Paddington Station; his achievement in prefabricated hospitals for the Crimea, where he unfortunately was called in too late to save the situation, and the final adventure with ocean-going steamers, where he was first in this field with iron hulls and screw propulsion.

He did not just design these great works according to known principles – almost every solution was a completely new one, and he was in charge of the execution and the organisation of the work down to the smallest detail. In fact, it was only his thoroughness and attention to detail that made such an achievement possible.

What was it that drove him on to such prodigious feats of energy? The author discusses this question in the epilogue, and offers as his solution the suggestion that it was to escape from a profound melancholy lying at the core of his being, that he became so addicted to what he called his 'castle building'. This may well be the case, but perhaps the author underestimates a little the driving force which the quest for the perfect solution is able to generate in a powerful intellect. In engineering, the perfect solution, if it is unorthodox, cannot be said to be found before it has been proved right in practice. Brunel believed in himself and in the rightness of his vision, and he could not bear to see his ideas strangled by prejudice, stupidity or inefficiency. He was ahead of his time and knew he had only himself to rely on, so he had to fight and take infinite pains if he wanted to see his castles erected. Need there be more to it than that?

Brunel's view of bureaucracy, of government departments and of all sorts of rules and regulations, even of patents, is in keeping with this. He believed in personal responsibility throughout. When asked by a

Royal Albert Bridge, Saltash by Brunel.

Royal Commission for his views on the application of iron to railway structures he wrote:

"If the Commission is to inquire into the conditions '*to be observed*', it is to be presumed that they will . . . lay down, or at least suggest, 'rules' and 'conditions' to be observed in the construction of bridges, or, in other words, embarrass and shackle the progress of improvement tomorrow by recording and registering as law the prejudices or errors of today . . . No man, however bold or however high he may stand in his profession, can resist the benumbing effect of rules laid down by authority . . . Devoted as I am to my profession, I see with fear and regret this tendency to legislate and to rule. . ."

It is an irony of fate that the Industrial Revolution, which Brunel did so much to advance, should end up by destroying so much of what he stood for. Building regulations, codes of practice, etc are now the order of the day. Private enterprise in the best sense, the possibility of backing and taking responsibility for one's own judgment, is made almost impossible.

Where would you now find a company which would entrust its engineer with complete control over such a problematical venture as the construction of the 'Great Britain', where iron hull and screw propulsion were used for the first time on this vast scale, and where hull, engines, tackle and hundreds of details had to be specially designed or invented for the job? And where would you find an engineer who could tackle all aspects of such an enterprise?

Such a spirit of adventure, such optimism, and such prodigious feats of endurance on the part of engineers and workers alike it would be difficult to match in our safety first, welfare society.

Mr Rolt's book is stimulating and can be recommended to engineers and laymen alike. On behalf of the former I would have wished that we could have had more of Brunel's own drawings and sketches and other visual material, because it is after all so much easier to describe technical objects by drawings than by words.

OVE ARUP

Tropical architecture in the humid zone

Maxwell Fry and Jane Drew, B. T. Batsford Ltd, £3 3s

This book summarises the work of two leading British architects who have worked extensively in tropical areas. The text covers many of the problems to be faced by architects when they attempt to meet new conditions of a tropical climate.

The book is well illustrated with buildings carried out by the authors and by their associates, with several related examples from other countries thrown in, including the work of Neutra, Niemeyer and Levi. There is a small section which deals with furniture and small equipment for the home and for the office that is demanded by a tropical location.

International poster annual 1957

Edited by Arthur Niggli, Arthur Niggli Ltd, £2 18s 6d

Posters were once the strongest publicity weapon. Now they have lost some importance in modern advertising campaigns. Yet, although posters seem the very opposite of the subliminal messages which appear 'unseen' on film screens and television, they often work on the unconscious in a similar way by floating through the sieve of conscious resistance which some other forms of advertising can only pass with difficulty.

Arthur Niggli continues to undertake the exceedingly hard and somewhat thankless task – for not everyone will be happy – of producing the 'International Poster Annual'. The problem of selection alone would daunt many a lesser man. However, it is open to question whether 500 first class designs are ever produced in any one year and on the basis of this volume, it would seem not.

Two possible solutions to this dilemma come to mind. Either, to bring out a far slimmer book of only the very best – and in many ways that need is already catered for by others, such as for instance 'Graphis'. Or, a quite different approach – more that of the stamp collector – to concentrate on a representative collection. It might also be interesting, and perhaps give a more comprehensive picture of current trends, if the work were to be grouped under subject headings such as soap, films, travel, etc.

At the moment the annual seems to fall between two extremes. The page arrangement, with some posters reproduced in full colour or larger than their fellows, implies the greater merit of those designs – a quality which is not always apparent.

One criticism which, for an international annual is not out of place, is of the English translations. For the sake of conformity it is perhaps necessary to have captions like "Film/Film/Film" and "Slips/Slips/Slips", but "Don't spread slopes in England" is mystifying, and so is "Chemical cleansing", when the illustrations state 'Please keep Britain tidy' and 'Dry cleaning' (on a Dutch poster).

On the considerable credit side, we see many fine posters which would otherwise have escaped us. Great Britain is richly, but possibly not quite representatively illustrated. Here again, the emphasis by colour and size seems capricious. For a high standard of design, vigour and often humour, the USA leads the field, while the Japanese continue to break new and exciting ground.

HANS SCHLEGER

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Addresses of designers may be obtained from the Editor

Addenda

DESIGN June 1957 pages 26–30: in the article 'Design Analysis 3' the handles of the stainless steel cooking pans made by The Prestige Group Ltd were designed by Peter Müller-Munk for Ekco Products Co, the American parent company of The Prestige Group Ltd.

DESIGN January page 59: the width of the 'Kenya' printed linen fabric, 37, made by Donald Bros Ltd was given as 2 ft 10 inches; this should have read 4 ft 2 inches.

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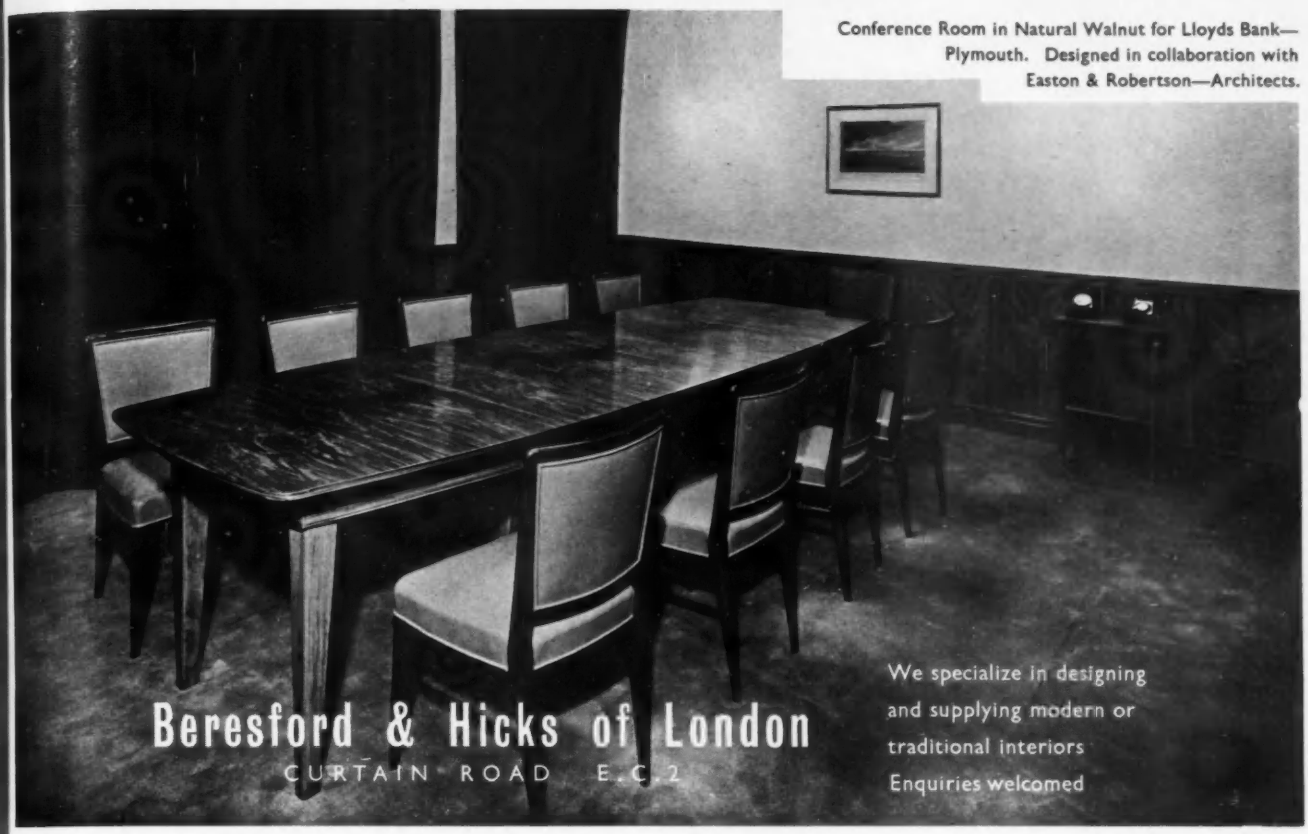

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DESIGN is published for the Council of Industrial Design, The Design Centre, 28 Haymarket, London SW1 (Scottish Committee: at 46 West George Street, Glasgow C2)
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